PRACTICAL OBSERVATIONS

ON THE

ÆTIOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT

OF

ANAL FISSURE.

BY

WILLIAM BODENHAMER, A.M., M.D.,

PROFESSOR OF THE DISEASES, INJURIES, AND MALFORMATIONS OF THE RECTUM, ANUS, AND GENITO-URINARY ORGANS.

"Truth is not the child of authority, but of time; and were we to allow ourselves to suppose, that nothing more, or new, could be taught, it is pretty clear that nothing more, or new, would be learnt."
—LORD BACON.

"Nunquam aliud natura, aliud sapientia dicit."—JUVENAL.

ILLUSTRATED BY NUMEROUS CASES AND DRAWINGS.

NEW YORK:
WILLIAM WOOD & CO., 61 WALKER STREET.
1868.

THE NEW YORK PRINTING COMPANY,
81, 83, *and* 85 *Centre St.*,
NEW YORK.

PREFACE.

The exquisitely painful affection termed *fissure of the anus*, notwithstanding the labors of some of the most eminent surgical authors, is yet by no means well understood by the profession. The diagnosis, as well as the treatment of it, is far from being established upon a solid basis. There is as yet no agreement even, among surgical writers, as to the precise application of the term *fissure of the anus*, and there still exists a great diversity of opinion as to the best method of cure. The author is therefore of opinion that there is much still to be learned in relation to this disease, and that it requires more careful research for its further elucidation. A more thorough and critical investigation of the subject would now seem to be the more especially necessary, since some of the authorities in treating it, have completely mixed up and confounded *disease*, *cause* and *effect*, thereby occasioning much obscurity and confusion, which prove a formidable obstacle to a correct understanding of the true nature, cause, and treatment of this distressing malady. The erroneous and conflicting opinions of these authors, however, might be passed by without note or comment, as harmless, did they not lead to a treatment not only wrong in principle, but most mischievous in practice. The author's object, therefore, in this work will be principally confined to the consideration of the disease to which the term *fissura ani* really, truly, and legitimately belongs; and by so doing endeavor to remove some of the obscurities, the difficulties, and the confusion which surround it.

Besides these several considerations, which led the author more immediately to call the attention of the profession to the subject of this affection, there are others equally weighty. There is no complete and systematic treatise on the subject, and the disease is of exceedingly practical importance, in consequence of the great suffering to which it gives rise, and its frequent occurrence in our own country, and from the fact of its being not unfrequently overlooked, or confounded with some other disease. It is also highly interesting from the circumstance that it admits, if well understood and judiciously treated, of speedy and complete relief without resorting to

the grave operation of M. Boyer, or any other serious or formidable measure. Whilst on the other hand, when not well understood, it is liable through misdirected measures to be seriously aggravated. Great good may be done by one well acquainted with the disease, while much harm by one who treats it ignorantly.

Anal fissure is by no means uncommon in this country, although some eminent authors are of opinion that the disease, as described by M. Boyer, is extremely rare, being scarcely ever observed by American practitioners. The able and highly accomplished medical writer, Dr. Reynell Coates, of Philadelphia, who is the author of the most able production on anal fissure in this country, remarked in 1841, that—"We have never met with it, either in public or in private practice, and several eminent surgeons in Philadelphia declare that it has not occurred under their observation." (*American Cyclopædia of Practical Medicine and Surgery. Vol. II. p.* 118. *Philadelphia*, 1841.) That this disease is not rare or uncommon in this country, the author himself has had ample opportunities of verifying, during a practice of thirty years in the cities of New Orleans, La., Louisville, Ky., and New York; having within this period treated, he is sure, more than a thousand cases. This, it seems to him, must be the experience of every surgeon of extensive practice, especially of those in our large cities.

So far as the author's treatment of this disease is concerned, he has nothing new to offer in this work. He has no novel method to recommend, which, by some species of *coup de main* practice, would hold out to both the surgeon and the patient an instantaneous or miraculous cure, by which to excite the enthusiasm of the former and the hopes of the latter. He has only recommended a steady and a skilful perseverance in carrying out the practice of well known, long tried, and safe measures to a successful issue;—hence he is aware that his treatment will be unattractive to those purely surgical enthusiasts who delight more in obtaining their ends by a prompt recourse to the knife, or to manual force, than by the milder, safer, and surer measures offered in the judicious practice of a long tried, less ostentatious, though much more solid and conservative method of cure.

In this work, besides the method especially adopted and recommended by the author, he has, as far as his knowledge extends, fully given all other methods, from the earliest times, with all the improvements, down to the present; and, for the benefit of the student as well as the practitioner, this has been done in as succinct, as practical, and as accessible a form as possible, or as the nature of the case would admit.

It may be alleged by the learned and the experienced that, in treating such an apparently simple subject as anal fissure, the author has been too prolix, too diffuse; but let it be remembered that he has not written entirely

nor even principally for these. "*Doctis indoctisque scribimus.*" It is the great aim of the author to make that which is *true*, rather than that which is *new*, more generally known through all the ranks of the profession.

Should this work, as the author humbly trusts it may, aid in clearing the diagnosis of anal fissure and spasmodic contraction of the sphinctores ani; or in removing some of the obscurities, perplexities, and doubts to a clear understanding of the true character and treatment of fissure of the anus, he will feel amply rewarded for his labor. But, whether this expectation is realized or not, he has at least endeavored, to the best of his ability, to accomplish all that an individual under such circumstances could hope to effect, by candidly and fully submitting to the profession everything on this subject which a considerable experience, both in reading and in practice, has instructed him.

In conclusion, the author would observe that he has illustrated this work by a number of diversified cases, some of which he treated many years ago, and by numerous drawings. The instruments represented by some of these were manufactured at the old established house of Messrs. George Tiemann & Co., No. 67 Chatham Street, New York. The intelligence and the ingenuity of the members of this firm, as surgeons' artists, the author has had, for a number of years, the most ample opportunities of witnessing.

New York, October, 1868.

TABLE OF CONTENTS.

CHAPTER I.

INTRODUCTION.

Section I.

History.—Progress, the all-absorbing and controlling idea of the age. The science of medicine no exception to this all-prevailing principle: its upward and onward tendency evident. The ignorance heretofore on the subject of the diseases of the anus and the rectum. The failure to make a proper exploration of the rectum one of the causes of this ignorance. Since the introduction of anæsthetics, the surgery of the rectum, especially its manipulative branch, has made rapid progress. These, and the now common use of the speculum ani and the rectal endoscope, are daily revealing the dark and hidden mysteries of this darksome passage. Fissure of the anus received but little attention previous to the time of MM. Boyer, Beclard, Dupuytren, Blandin, and a few others. About fifty years ago, M. Boyer called especial attention to the subject of this disease, from having treated a large number suffering from it in its most aggravated form. He was of opinion that the disease called fissure of the anus, by the ancients as well as by the moderns, was not identical with that which had come under his own observation; and that previous to his time this disease was never observed with attention, neither was it accurately described nor correctly treated by any one. From this sweeping declaration the author dissents *in toto*. A comparison between the fissura ani of the ancients and that described by M. Boyer. The former believed it to be simply what its name imports, a superficial breach of surface of the mucous membrane, of a peculiar form; the latter believed anal fissure to be always accompanied by a painful spasmodic contraction of the sphincter ani muscle, and that this painful contraction indeed constituted the real disease, whether attended by any breach of surface or not; the former, that it was an idiopathic disease of the mucous membrane; the latter, that it was an idiopathic disease of the sphincter ani muscle itself. The ancients, when speaking of fissura ani, do not mention anal spasm. What Paulus Ægineta, Albucasis and Ætius say on the subject of fissura ani. The chief indication in the treatment of this disease by the ancients was to convert the original fissure or ulcer into a recent wound by scarification and by topical medication. It is worthy of remark, that a fresh wound made in the mucous membrane, or in the irritable fissure of the same, is not attended with the same severe suffering, after the act of defecation, that arises from the original fissure or idiopathic disease; that such a wound produces at first nothing but a common soreness, but at the same time tends to relieve the pain and cure the disease. The ancients then, to cure this disease, converted the primitive or original lesion into a recent or fresh one, and thus ultimately healed it. What have

the moderns now any better than this? Even if the fissure is attended by anal spasm, all that is necessary, as a general rule, to effect a radical cure is to heal the fissure, and the anal spasm will cease of itself. From what M. Boyer says, he doubtless believed that he himself was the first to make the discovery that anal spasm always accompanied anal fissure, and that it was its characteristic or pathognomonic sign; indeed, all his admirers attribute to him the origination of this idea. In this, however, both he and they are mistaken, for nearly three hundred years before he or they promulgated this idea, the celebrated French surgeon, Ambrose Paré, accurately described the disease called fissure of the anus, as consisting of cleft and very long little ulcers, situated in the orifice and the canal of the anus, and attended by very sharp and burning pain, and by great contraction and narrowing of the anus. The description and the treatment of fissure of the anus given by M. Paré. The consideration of the theory of those of the moderns who teach that anal spasm is in reality the idiopathic disease, of which the breach of surface or fissure, if any, is but an accidental accompaniment or consequence. The views on this subject of each of the following eminent surgeons who held this doctrine,—MM. Boyer, Dupuytren, and Sir Benjamin Brodie. The declarations of these gentlemen, however, on this subject have never been verified by any satisfactory *ante-* or *post-mortem* examination, and rest merely upon assertion. The views of MM. Blandin, Sanson, Quain, and Bushe in opposition to this theory. The views of M. Velpeau in conciliation of these conflicting theories. . . . . Pages 3–21

Section II.

Spasmodic Contraction of the Anus.—Nervous irritation in muscular parts often occasions partial and sometimes obstinate contractions. When this occurs in the anal canal it constitutes what is generally called spasmodic contraction of the anus. There are three kinds of muscular contraction—the spasmodic, the permanent or organic, and the mixed, which partakes of the characters of both. The first can always be dilated to the full size of the canal in which it exists, and of which nothing can be learned by dissection after death, because the spasm depends upon a living and active principle which ceases with life. The second and third can not only be detected in life, but can be demonstrated *post-mortem*. How a spasmodic contraction may become permanent or fixed. Anal spasm as an entity a disease in itself. The independent existence of anal spasm is a theory held by some of the most able surgical writers on the diseases of the rectum and anus; but as the principles of it rest purely upon the evidence of facts, fairly and fully ascertained and set forth, they fail, in the opinion of the author, to establish it. The author shows that the numerous cases which these writers have presented to illustrate this theory are, in reality, cases of anal fissure, or of some other disease of the mucous membrane of the inferior extremity of the rectum; or of disease in the genito-urinary organs, and not cases of primary or independent disease of the sphincter ani muscle itself. The following are the authors quoted in this work who have treated anal spasm as an entity, a disease in itself, and who have made it a subject of special consideration:—M. Boyer, Mr. Copeland, Mr. Baillie, Mr. Gaitskell, Mr. Blackett, Mr. White, Mr. Howship, Mr. Calvert, Mr. Mayo, M. Chelius, Mr. Salmon, Dr. Bushe, Mr. Curling, and Mr. Malyn. The views and the cases of each of these authors given, with comments upon the same. 21–40

CHAPTER II.

FISSURE OF THE ANUS.

Section I.

Name.—The disagreement among authors as to the precise application of the term *fissure of the anus.* It is incorrectly applied by some to anal spasm, a mere symptom of anal fissure, and by others equally incorrect to every superficial lesion of whatever character, situated in the inferior extremity of the rectum, and about the margin of the anal orfice. The term fissure of the anus in its limited sense, or in its strict application. The term as used in its more extended sense. The difference in the form of these superficial lesions of the inferior extremity of the rectum and about the anal orifice. Their characteristic form is doubtless imparted to them by the irregularities of the mucous lining of the rectum, disposed as it is into numerous rugæ. This term not a good one to designate this painful affection, inasmuch as the mere form of the lesion, whether linear, circular, or oblong, is not the characteristic sign, neither does it determine the true nature of the disease. Its use, however, has been so long sanctioned by authority that the author does not feel at liberty to venture upon the substitution of a newly created one. The term thus retained by the author as a nosological distinction, he strictly confines to superficial breaches of surface in the anal region of a highly sensitive, irritable, or painful character, whether linear, oblong, or circular ; or whether attended by anal spasm or not. Mr. Curling very appropriately denominates fissure of the anus, "*irritable ulcer of the rectum.*" He, together with Mr. Quain and Mr. Smith, of London, repudiates the term, fissure of the anus. . . . . Pages 43–46

Section II.

Physiology.—A brief description of anal fissure given as preliminary to the subject of physiology. It is an idiopathic disease of the mucous membrane of the inferior portion of the rectum ; or of the muco-cutaneous coat about the anal orifice, and not a disease of the muscular coat, or muscular fibres of the intestine, nor of the sphincters of the anus. The excessively irritable and excitable fissure of the mucous membrane communicates its irritability and excitability to the muscular coat and to the sphinctores ani muscles, and causes one or both of them to contract violently. The sphincter ani muscles are sympathetically impressed or influenced by the morbid condition of the fissure—hence the spasm. In some morbid conditions of the anus, or anal region, whether induced by fissure or by some other cause, extreme sensibility of the nerves of the part and spasmodic contraction of the anus coexist as parts of the same disease. Sensibility of the terminal outlets of the body. The sensibility of all mucous membranes is greatest at the extremities, or the outlets of the canals which they line. The outlets of the body are supplied or endowed with a peculiar nervous influence which is obviously connected with their proper function. The direct cause of the extreme and agonizing pain in anal fissure is the result, to a great extent, of the violent involuntary spasmodic contraction of the sphincters of the anus upon the already highly sensitive and painful ulcer. This view of the subject is in accordance with the pathology of the disease, as well as with the physiological condition of both sphincters of the anus, whose involuntary contraction, both tonic

and spasmodic, is entirely owing to a peculiar nervous endowment. The tonic and the muscular contraction of the anal sphincters. The explanation of each. The influence of the will upon the anal sphincters. These two muscles stand in physiological function between the involuntary and voluntary system of nerves. The supposition that a special nervous influence is necessary to govern the relaxation and the contraction of the anus has been entertained by several eminent physiologists. The views of the ingenious and talented Italian, Professor Bellingeri, on this subject. The fibres of the anal sphincters may be stimulated to action directly by the will, or indirectly by *reflex irritation*, the one action being voluntary and the other involuntary. The philosophy of reflex action in its relations to nervous phenomena is at the present time attracting great attention. To know that all morbid manifestations may be due to reflex influence is of the highest importance. The nervous endowment of the rectum. Hypertrophy of the external sphincter of the anus. . Pages 47–53

CHAPTER III.

ÆTIOLOGY.

Constipation of the Bowels as a Cause of Anal Fissure.—The ancients attributed fissure of the anus principally to constipation of the bowels, and to the desiccated condition of the stercoraceous matters incident to such a constipated state. It is obvious how constipation with all its train of evils, retention and induration of the fæces, and the violent action of the expulsive muscles requisite for their evacuation, may be a cause of anal fissure. Anal fissure is sometimes the result of inflammation, and the attendant turgescence of the mucous membrane of the anal canal. It also sometimes results from the excoriations produced by the vitiated and irritating discharges in dysentery, diarrhœa, cholera, and other visceral diseases. Obstinate ulcers or fissures are sometimes produced in the fossa between the two anal sphincters, by the continued lodgment in this situation of fæcal matter or other foreign bodies. Severe straining efforts a cause of anal fissure. A somewhat frequent cause is a deficiency in the secretion of the natural lubricants—the mucous and other secretions of the inferior extremity of the rectum and about the anal orifice. Anal fissure from mechanical injuries, such as the lacerations which are produced by over distention, by the passage of hard fæces, as well as those which sometimes follow surgical operations, and the careless and awkward use of the pipe of the enema syringe, the speculum ani, the rectal sound or bougie. It is sometimes the result of external violence communicated by falls, blows, etc., upon the anus, the nates, or the coccyx. Anal contraction as a cause of anal fissure. Anal fissure from the frequent use of enemata. Anal fissure from cutaneous affections. The venereal origin of anal fissure. Can anal fissure be produced artificially? Are the causes of anal fissure obscure? Who are the most obnoxious to anal fissure? 57–67

CHAPTER IV.

CLASSIFICATION AND DESCRIPTION OF ANAL FISSURE.

Section I.

The Seat, the Anatomical and the Pathological Characters of Anal Fissure.—The importance of distinguishing and describing fissures of the anus in

accordance with their location. Some authors think such distinction of no therapeutical value. The great difference in the appearance of the fissure or ulcer, arising from its location. MM. Blandin and Dupuytren acknowledge the importance of such distinction. M. Blandin divides anal fissures into three divisions. The author distinguishes them into four classes, according to their locality, describing the peculiar character they assume in each of such position. A description of the seat, the anatomical and the pathological character of each class. . . . Pages 71–78

Section II.

The Symptoms and the Signs of Anal Fissure.—The most striking feature in the nature of anal fissure is the great disproportion which exists between the extent of the solution of continuity, and the intense suffering it occasions. The characteristic or essential symptoms of anal fissure. The interval of time and its length between the act of defecation and the accession of the pain, as a pathognomonic sign of anal fissure. What Mr. Colles and Mr. Quain say on the subject of this phenomenon. The explanation given of it by Prof. Van Buren and Mr. Malyn. Symptoms and signs of anal fissure in infants. They differ essentially from those manifested in the adult. The difference pointed out. 79–90

Section III.

Physical Exploration, Diagnosis, and Prognosis.—The measures necessary to be observed previous to making a thorough inspection of the rectum. The position of the patient and the manner of making the exploration. The external appearance of the anus in anal fissure. It is almost always strikingly retracted. The condyloma or pendulous projection, composed of the integument at the margin of the anus, and located at the base or inferior extremity of the fissure. It exists in most all cases, and is an unerring guide to the fissure itself. The digital examination of the anal canal and the preparatory measures necessary for it. The specular examination of the inferior extremity of the rectum and the preparatory steps necessary to it. Description of three anal speculæ used by the author. The examination by means of the probe. The diagnosis. The prognosis. The complications of anal fissure. 90–103

CHAPTER V.

THE TREATMENT.

Section I.

Precautionary and Palliative Measures.—It is highly important to the success of any treatment of fissure of the anus that constipation of the bowels, if it exists, should be corrected, by securing their daily evacuation, and thereby preventing fæcal accumulation. It is also a primary object to prevent the formation of acrimonious matter in the bowels, and to take especial care to preserve an easy and regular transmission of their contents, which for this purpose should as much as possible be kept in a semi-fluid state, as figured or hard stools generally aggravate the symptoms.

These several ends must be effected by enjoining the most bland and unirritating diet; and by the use of emollient enemata, or mild aperients. The measures recommended by the author to accomplish the certain evacuation of the bowels daily, and the easy transmission of their contents. The following as palliatives to be used sometimes in certain cases and under certain circumstances—leeching, fomentation, horizontal posture, cold applications, and local anæsthesia. The palliative measure of M. Gossement. . . . . Pages 107–109

Section II.

The Treatment as Pursued by the Author.—It consists of topical medication combined with dilatation and sometimes scarification or incision of the mucous membrane. The chief indication is to modify the surface of the ulcer and transform it into a simple or a common sore. Distention of the spasmed anal sphincters; its object, and the method of accomplishing it. The author's method of treating anal fissure in infants. 110–119

Section III.

The Different Methods of Treatment.—These may be included under the following heads:—1. Topical Applications;—2. Cauterization;—3. Dilatation;—4. Incision of the Mucous Membrane;—5. Excision of the Fissure;—6. Complete Division of the Sphincters of the Anus. The treatment by topical applications. It is said by some to be merely palliative, and by others to be impracticable, or positively injurious. The author proves by the highest authority, that it has not only been found practicable, but that it has been attended with the most complete success in numerous instances. The numerous and various topical applications given, together with the names of those who employed them, and the success or failure attending their application. 2. The treatment by cauterization. The indication contemplated by the use of the cautery, either in its potential or in its actual form. The potential cautery employed in the treatment of fissura ani from the earliest times. The different kind of caustics, with their mode of application. M. Jules Guérin recommends the actual cautery. Objections to this remedy. 3. The treatment by dilatation. The object and the method of employing it in anal spasm when caused by fissure of the anus. Dilatation by the use of the bougie. It was employed and recommended by Mr. Copeland, Mr. Gaitskell, and Mr. Howship as early as 1815. The principle of muscular distention and dilatation as recommended and so successfully employed by M. Récamier. Dilatation by the use of different kinds of tents. Forcible and instantaneous dilatation of the sphincters of the anus by means of the fist, was first executed and recommended by M. Maisonneuve. This operation met with no favor. A modification of this operation was subsequently made, by substituting the thumbs for the fist. The manner of performing it as practised by M. Nélaton, who is its advocate. This method of dilatation of the anal sphincter in fissure of the anus and some other diseases of these parts is adopted and recommended by Professor Van Buren. The objections. A modification of it recommended by the author, in which the index fingers are used instead of the thumbs. 4. The treatment by incision of the mucous membrane. Mr. Copeland the first who recommended it as a substitute for M. Boyer's operation. What Sir Benjamin Brodie and Mr. Quain say on this subject. Mr. Curling and Mr. Smith are of opinion, that besides the division of the mucous membrane and submucous cellular tissue, it is necessary to the success

of the operation that some of the muscular fibres should be divided. The author differs from this opinion. The *modus operandi* of this operation. The author's method of performing it by a new instrument. 5. The treatment by excision of the fissure. This operation, the author believes, was first proposed and executed by M. Velpeau. In it the integrity of the muscular coat is preserved, neither the muscle nor the muscular fibres of it being interfered with. The *modus operandi.* 6. The treatment by complete division of the anal sphincters. The merit of first executing and recommending this operation in case of anal fissure, is universally attributed to M. Boyer. The objections to this operation. It is founded upon a mere hypothesis. The anal spasm for which the operation is advised is only a symptom, an effect, or a result of the fissure, which is in reality the real disease. The operation is wrong in principle and mischievous in practice, and cannot be approved of, upon rational grounds. All treatment is irrational that is not immediately directed to the morbid condition of the mucous membrane of the part, or that does not immediately tend to heal the fissure itself, which is the real disease. The operation was considered to be infallible by M. Boyer; it is, however, proved by MM. Récamier, Beclard, Velpeau, and others, not to be so. The accidents and the dangers of the operation. The manner of performing it as advised by M. Boyer. A modification of M. Boyer's operation by M. Blandin. It consists of the submucous and subcutaneous section of the sphincter ani muscle. It is ingenious, simple, far less formidable and repulsive, equally successful, and attended with much less risk. A description of the instrument, and the manner of performing the operation. The proceeding of M. Boyer as modified by the late and lamented Dr. Hayward, of Boston. It consists of the division of the sphincter ani from without inwards, instead of from within outwards, as in the operation for complete fistula in ano. The manner of performing the operation. . . . . Pages 119–147

CHAPTER VI.

CONCLUSION.

Section I.

Illustrative Cases.—Case I. Anal fissure of nine months' standing, caused by obstinate constipation of the bowels, and the continued use of drastic purgatives. Case II. Anal fissure complicated with hæmorrhoids. Case III. Anal fissure complicated with a small blind internal fistula—the patient having been treated several months for internal irritable piles. Case IV. Anal fissure of an aggravated character, in which the sphincters of the anus had been divided with the knife. Case V. Anal fissure in a little boy three years old, caused by obstinate constipation of the bowels, the result of inactivity of the liver induced by intermittent fever. Case VI. Anal fissure complicated with fistula in ano, spermatorrhœa, and ascarides of the rectum. Case VII. Anal fissure complicated with a blind internal fistula. Case VIII. Highly irritable ulcer, situated in the fossa between the external and internal sphincter of the anus. Case IX. Irritable ulcer of the rectum simulating uterine disease, and a large accumulation of hard and impacted fæces in the left colon simulating a tumor in that region. Case X. Anal fissure in an infant ten months old. Dentition,

persistent diarrhœa, and procidentia ani. Case XI. Anal fissure, previously diagnosed and treated by different physicians, severally as neuralgia of the inferior extremity of the rectum, internal piles, and constipation. Case XII. Anal fissure attended by great flatulency, and accompanied alternately by constipation and diarrhœa. The true nature of the case having been overlooked, it was treated severally as dyspepsia, anal neuralgia, and internal piles. Case XIII. Anal fissure complicated with hæmorrhoids. In this case the fissure, having been entirely overlooked by the previous medical attendants, was diagnosed and treated by them as irritable piles. Case XIV. Anal fissure complicated with hæmorrhoids and with spermatorrhœa. Case XV. Anal fissure the result of the application of nitric acid to the mucous membrane of the anal canal. Case XVI. Anal fissure from a rupture of the mucous membrane of the anal canal, the result of a fall upon the nates. Case XVII. Several fissures complicated with numerous condylomata and with permanent contraction of the anus. Case XVIII. Anal fissure complicated with an intolerable pruritus of the anus. Case XIX. Anal fissure in an infant suffering from aphthæ. Case XX. Anal fissure complicated with hæmorrhoids and an affection of the prostate gland. Case XXI. Anal fissure complicated with hæmorrhoids, the fissure ocated between two of them. Case XXII. Anal fissure caused by chronic irritation of the mucous membrane and muco-cutaneous coat of the anus. Error in diagnosis and failure to afford relief by previous treatment. Case XXIII. Anal fissure in a nursing mother who was suffering severely from aphthæ. Case XXIV. Anal fissure complicated with hæmorrhoids and with an anal fistula. Case XXV. Fissures and aphthous abrasions and ulcerations of the anus in connection with *nurses' sore mouth*. Case XXVI. Anal fissure following the ligation and sloughing of a hæmorrhoidal tumor. Case XXVII. Anal fissure in a patient with albuminous urine, whose general health was much impaired. Case XXVIII. Anal fissure the result of obstinate constipation of the bowels, and the passage of scybalous fæces. Case XXIX. Irritable ulcer, situated in the fossa between the external and internal sphincter of the anus. . . . . Pages 151–192

Section II.

Bibliography. 192–199

CHAPTER FIRST.

INTRODUCTION.

PRACTICAL OBSERVATIONS

ON THE

ÆTIOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT

OF

ANAL FISSURE.

CHAPTER I.

INTRODUCTION.

Section I.—History.

Progress, either in remodelling the ancient order of things, or in creating a new one, is the one and controlling idea of the present age, and no theories that stand in the way can long exist. Systems and doctrines, gray with the growth of ages, are in a few days overthrown and swept away like cobwebs, although crystallized by time, and fortified by the genius and labors of a hundred generations. The science of medicine is no exception to this all-prevailing principle, as it too is now rapidly moving onwards and upwards. There is no better evidence of the rapid march of medical science at the present time than is found in the increased accuracy of diagnosis, aided by a careful study of the physical signs of disease.

The ignorance on the subject of the diseases of the rectum which had so long prevailed, and which to a certain extent still more or less exists, may very justly be attributed to the failure on the part of practitioners generally to make a proper exploration of this organ. The rectum heretofore

has been a *terra incognita* in the domain of surgery, into which the practitioner did not care to pry: it has been considered a "sort of land of the Cimmerians, where quacks alone could breathe, and where humbug darkened the air." But this ignorance and this darkness are now being rapidly dispelled, and this organ is now becoming as subservient to the laws of physical exploration as any other. The surgery of the rectum, particularly as it regards its manipulative branch, has made rapid strides since the introduction of anæsthetics. These, and the now common use of the speculum ani and rectal endoscope, are daily revealing the dark and hidden mysteries of this darksome passage.

Anal fissure received but little notice from surgical writers previous to the time of MM. Boyer, Dupuytren, Blandin, Velpeau, Becklard, and a few others. This neglect or ignorance of the subject, on the part of the ancients, as well as on the part of the moderns, was, however, not confined alone to the disease in question, but extended to most all of the diseases of the rectum and anus. It is therefore highly creditable to the pathologists of recent times, that they are extending their researches to every form of suffering incident to these parts, and are laboring assiduously in this field which had been so long entirely neglected by their predecessors, and when found was nothing but a *tabula rasa*, but which, as before remarked, is now being cultivated, enriched and developed by their conjoint and active labors.

About half a century ago the celebrated French surgeon Baron Boyer directed special attention to the subject of this disease, in consequence of having treated a large number of adults of both sexes who had suffered from it, in its advanced stage or in its most severe form; indeed all the cases that came under the immediate observation of this distinguished surgeon at that time seemed to have been of a most aggravated character. From the circumstance, doubtless, of the great severity of these cases, and especially of

their having been accompanied by spasmodic contraction of the sphincter or sphincters of the anus, he came to the conclusion that the disease which he had seen and treated as fissure of the anus could not be identical with that so denominated by the ancients as well as the moderns, inasmuch as he had consulted their works in vain to find a description of it, to accord with the disease as it presented itself to him. He says it is true that Albucasis makes mention of a disease which he calls fissure of the anus, and which he does not describe, but which he recommends to be treated by paring or scarifying the fissure with the nails or with a sharp instrument, and that by this means and the aid of God the disease would be cured. But, says Boyer, the affection of which Albucasis speaks cannot be similar to that which came under my own observation. Boyer also says that M. Sabatier makes mention of anal fissure as being a disease consisting of narrow and long excoriations about the margin of the anus, and as being an affection both painful and difficult to cure, and that it was astonishing no author had yet spoken of it, or had given a description of it. To which Boyer further remarks, that Sabatier was no doubt ignorant of the fact, as he himself had been but a short time previous, that M. Lemonnier, in a work on fistula of the anus, published as long ago as 1689, describes fissure of the anus as follows:—"Les ragades ou fissures sont de petits ulcères douloureux, piquans et sans grosseur, qui suivent la longueur des rides du fondement, et qui ressemblent assez à ces engelures ou crevasses, que le froid produit aux lèvres et aux mains pendant l'hiver; elles sont quelquefois causées par l'endurcissement des matières fécales, qui, s'étant amassées dans le rectum en gros volume, et qui rendues après par un excès de chaleur, par leur desséchement et leur séjour, excorient ou fendent le sphincter et l'anus en passant."—(*Traité de la Fistule de L'Anus*, *p.* 160. *Paris*, 1689.) "Now it is evident," says

Boyer, "from what M. Lemonnier says, that he understood the disease called fissure of the anus. But this malady which he describes, is it the same which I myself have observed? I do not believe it." M. Boyer did not consider that the fissura ani spoken of by Albucasis and other ancients, nor that mentioned by Sabatier and so well described by Lemonnier, could have been similar to that which he himself had observed and treated; because no particular mention is made by these authors of the agonizing pain and the anal spasm which sometimes accompany this disease; and because the measures they had recommended and adopted were, as they themselves declare, completely successful in curing it; whereas all the patients that had come under the immediate care of himself for the treatment of anal fissure, had suffered the most exquisite pain, attended by violent spasmodic contraction of the sphincter ani, and had previously employed every variety of application that could be suggested capable of procuring relief, without affording the least permanent benefit. In another place Boyer again refers to the same subject in the following language:—"Tel est le résultat de mes observations sur une maladie jusqu'à présent méconnue, et contre laquelle on a employé des remèdes très-souvent inutiles, quelquefois nuisibles, et toujours insuffisants."—(*Traité des Maladies Chirurgicales, Tome VI., p.* 614. *Cinquième Edit. Paris*, 1849.)

From these several premises this celebrated surgeon comes to the conclusion that the disease which he denominates fissure of the anus, if it was not a recent disease, or unknown, was, at least previous to his own time, never observed with attention, neither was it accurately described, nor correctly treated by any one. Now from this sweeping conclusion of M. Boyer, who furnishes no adequate detail of the facts upon which his opinions rest, I most respectfully beg leave to dissent *in toto*, simply because I believe

his premises, are not founded in truth. He has done both the ancients and the moderns more or less injustice, as I shall fully demonstrate before I dismiss the subject. From the high position of this author, the extensive circulation of his views upon this subject, and the consequent influence his opinions must have upon the medical profession, not only in his own but in other countries, it becomes a question of no little moment, how far those views are founded upon a rigid induction of facts; for without these, theories in medicine are at least worthless, if not pernicious in their results. The adroit and skilful manner in which M. Boyer handles the subject of this disease, and the highly chaste and classic language in which he clothes his opinions, are so fascinating that his doctrine finds a ready reception in the unwary mind. On this account, the very plausible theory which he has advanced cannot be examined with too much freedom. It is here important to inquire what the ancients considered fissure of the anus to be, and to compare their description of it with that given it by Boyer himself, so as to be able to determine the difference between them. I will show that the ancients considered it to be precisely what they termed it, or what its name imports—a superficial breach of surface simply, of a peculiar form, situated within or immediately without the anal orifice, and attended with more or less sharp or burning pain. I will also show that what M. Boyer considers anal fissure to be is altogether a much more complicated affair, and that this term, when applied to what he believes this disease in reality to be, is a misnomer and has no significance. *Painful spasmodic contraction of the sphincter ani muscle* is in reality the anal fissure of M. Boyer; but it was not the fissure of the ancients, for they do not even name spasm of the sphincter ani when speaking of anal fissure. They doubtless witnessed anal spasm, and when they did so, they considered it as an independent, or a separate and distinct

disease altogether, as I will show some of the moderns have since done and continue now to do. Anal spasm attended anal fissure in the times of the ancients as it does now. The disease has never undergone any change in this respect, being precisely the same now as it was then. The ancients only erred in not recognizing anal spasm as one of the signs of anal fissure, but considered it an entity; hence they failed to this extent in giving it a full description. Many of the moderns, however, with all their advantages, are no better in this respect, as they have committed and continue to commit the same error. I will show, however, that M. Boyer can have an anal fissure without any breach of surface, without a fissure, for he teaches that the spasmodic contraction of the sphincter ani constitutes the disease called fissura ani, that it exists as an idiopathic affection, whether attended by a fissure or not; and not only so, but that the anal spasm is the primary as well as the principal morbid condition; and even that it is one of the most remarkable predisposing causes of anal fissure. I have thus briefly stated the main points of difference between the ancients and M. Boyer on this subject, and it will be observed that whilst the former consider the disease to consist merely of a superficial idiopathic lesion, attended by more or less sharp or burning pain, &c., the latter considers the disease to consist of a painful spasmodic contraction of the sphincter ani, whether attended by any lesion or not, &c.

I will now proceed to the proof. It will be conceded by all who are familiar with the little that is said in the writings of the ancients on this subject, that they included in the term *fissura ani* every superficial lesion about the anus, or inferior extremity of the rectum, in the form of fissure, chap, crack, rhagade, excoriation, abrasion, &c. The ancients are silent with regard to the spasmodic contraction of the sphincter ani muscle, a phenomenon which

sometimes attends anal fissure in its advanced or aggravated stage; but, at best, this spasm of the sphincter is nothing but one of the symptoms, effects, or evidences of the fissure, and not the disease itself. The rationale of the phenomenon is, that the sphincter ani is brought into this exalted action solely in consequence of the irritation of the fissure upon the mucous membrane within the grasp of the muscle, and the influence of reflex nerve action. The ancients, as before observed, doubtless witnessed cases in which this hyper-action of the sphincter existed, and if they did they might naturally enough have come to the erroneous conclusion that it was a disease of the muscle itself, being spasmodic in character and separate and distinct in its nature; and this would seem the more especially so, since it was extremely difficult then, under the most favorable circumstances, to make such an exploration as would result in the detection of a fissure or of any other disease of the anal canal, at least whilst the anal spasm lasted. Now if this supposition in relation to the ancients be true, then they were to a considerable extent excusable for embracing this error, surrounded as they were by so many unfavorable circumstances towards making a proper inspection of the parts. Not so, however, those of the present day, with anæsthetics, the speculum and endoscope, who hold precisely similar errors in relation to spasmodic contraction of the sphincter ani.

The celebrated Grecian, Paulus Ægineta, in his most admirable synopsis of the medical literature of the ancients, says, and very correctly too, that,—"Fissures are occasioned principally by hard fæces, and being slow of granulating, owing to their callosity, must be converted into recent ulcers by paring (excoriating, scarifying, or incising) them with the nails, or a scalpel; when they may be made to granulate by proper applications."—(*Libri Septem. Lib. VI., cap.* 80, *English Version, by Adams. Vol. II., p.* 405. *London,* 1846).

Albucasis was perhaps the first who recommended simple incision of the mucous membrane, or of the fissure, as a remedy in anal fissure. As has already been noticed, he advised the fissure or fissures to be excoriated with the nails, or incised or scarified with a cutting instrument. (*Chirurgi Methodus Medendi, Lib. II., cap.* 81, *p.* 633, *Channing's Edition.*)

Ætius, however, of all the ancients, has given the most comprehensive account of condylomata and fissures of the anus. When speaking of the latter he seems to have already had reference to spasmodic contraction of the sphincter ani. He advises the old fissures to be treated by paring, or by scarifying their edges with a sharp instrument, and then applying suitable dressings, &c. (*Medici Græci contractæ ex veteribus Medicinæ Tetrabiblos hoc est Quarternio. Tetr. IV., serm.* 2, *cap.* 3. *Basil*, 1542. *Folio.*)

I would now ask, what have the moderns any better, so far as the treatment of anal fissure is concerned, than the ancients had? The main indication in the treatment of this disease then was precisely what it now is,—namely, *to convert the original fissure into a recent wound.* This the ancients accomplished by incising or scarifying the fissure, and by making various applications to it. It is here worthy of remark, that a fresh wound made in the diseased mucous membrane, or in the irritable fissure of the same, is not attended with the same severe suffering after the act of defecation, that arises from the original fissure or idiopathic disease. The ancients seem to have made the discovery that such a wound produced at first nothing more than a common soreness, but it at the same time entirely relieved the pain and cured the original disease,—hence they recommend and practised incision or scarification of the fissure, the same as now advocated and adopted by many at the present day. On the authority of the late Sir Benjamin Brodie, the late Mr. Copeland was the first surgeon who, in modern

times, advised incising the mucous membrane simply, through the fissure, instead of complete division of the sphincter of the anus, as advised by M. Boyer. The ancients also used various applications, as before observed, to the fissure, which, by converting the primitive or original lesion into a recent or fresh one, thus ultimately healed it. If the fissure is even attended by a spasmodic contraction of the sphincter ani, all that is necessary, as a general rule, to effect a radical cure, is to heal the fissure, and the anal spasm will cease of itself.

Now, it will at once be perceived that, if the ancients taught such dogmata in relation to anal fissure as represented by M. Boyer, they were entirely ignorant of the nature, cause, and treatment of this disease. But before passing this severe judgment upon the tenets of our great forefathers in medicine, it would be well for us to investigate their doctrines on this subject more accurately than M. Boyer appears to have done in this instance. My opinion is, that the views held by the ancients with regard to the nature, cause, and treatment of this disease, although more or less mixed with error, were more rational than those promulgated by M. Boyer himself. It is true that the ancients do not give so full and so graphic a description of it as he does, but they may have thought that the simplicity of the disease did not require it at their hands. From what M. Boyer says, he doubtless believed that he himself was the first surgeon who made the discovery, and who subsequently taught the doctrine, that anal spasm always accompanied anal fissure, that it was its characteristic or pathognomonic sign; indeed all his admirers attribute to him the origination of this idea of including spasmodic contraction of the sphincter ani—this *sine quâ non* of his—in the term *fissura ani*. In this, however, as in some other opinions relative to this subject, he and they are most egregiously mistaken, for I will now show that nearly three

hundred years before he promulgated this idea, the disease called anal fissure was described as not only consisting of a painful or irritable ulcer or fissure, but also of a contraction of the anus. Had M. Boyer consulted the works of his own countryman, the celebrated surgeon Paré, who flourished about the year 1552, he would have found almost as graphic a description of fissure of the anus as that which he himself has given. I regret I have not a French copy of the works of Paré to quote from, but am obliged to use the English translation by Mr. Johnson, which is said, however, to have been translated from the Latin and carefully compared with the French edition. Paré under the head,—"*Chapps, and those wrinkled and hard Excrescences which the Greeks call Condylomata*," says:—"Chapps or fissures are cleft and very long little ulcers, with paine very sharpe and burning, by reason of the biting of an acride, salt and drying humour, making so great a contraction, and often times narrowness in the fundament and necke of the wombe, that scarcely the toppe of one's finger may be put into the orifice thereof, like unto pieces of leather or parchment, which are wrinkled and parched by holding of them to the fire. They rise sometimes in the mouth, so that the patient can neither speake, eat, nor open his mouth, so that the Chirurgian is constrained to cut it. In the cure thereof, all sharpe things are to be avoided, and those which mollifie are to be used, and the grieved part or place is to be moistened with fomentations, liniments, cataplasmes, emplasters, and if the malady bee in the wombe, a dilater of the matrix, or pessary must be put thereinto very often, so to widen that which is over hard, and too much drawn together or narrow, and then the cleft little ulcers must be cicatrized." (*The Workes of That Famous Chirurgion Ambrose Paré. Translated out of Latin and compared with the French. By Th. Johnson. Book XXIV., Chap. lxiii., p.* 957. *London*, 1634. *Folio.*) It is thus seen that M. Paré here furnishes us with

a brief, yet a very comprehensive and correct description of anal fissure, consisting of cleft and very long little ulcers, situated in the orifice and canal of the anus, attended by very sharp burning pain, and often by great contraction or narrowing of the anus. M. Boyer has, as I have previously shown, emphatically declared that previous to his time anal fissure, as it was presented to him in the numerous cases which he treated, was unknown; inasmuch as he had sought in vain, in the writings of the ancients as well as in those of the moderns, to find a description of it; and M. Blandin, one of his admirers, says that spasm of the sphincter ani, one of the varieties of anal fissure, was unknown till lately. M. Blandin also says that M. Lemonnier was really the first surgeon who has given any description of fissura ani. From this it is evident that M. Blandin was ignorant that M. Paré, one hundred years before, had given a much better description of anal fissure. M. Velpeau also, in alluding to M. Boyer's description of fissure, says that fissure of the anus was not in reality known as a distinct disease until after the year 1822. I, however, have shown that M. Paré, three hundred years before 1822, gave as correct a description of anal fissure as M. Boyer or any one else.

For the treatment of this disease M. Paré recommends various applications to be made to the fissure, the dilatation of the contracted orifice, cutting, and the cicatrization of the ulcer or ulcers. I ask, what more is known of this disease at the present time; or what more is done to relieve it, than we find briefly stated by M. Paré? The same disease, says this quaint author, attacks the neck of the womb, and requires the same kind of treatment. I myself have for a number of years adopted the idea which is here singularly enough suggested, that the disease which is improperly denominated *Dysmenorrhœa*, is in reality nothing more nor less than *fissure of the os tincæ;* and I have so treated

it with remarkable success,—namely, by the application of a strong solution of the nitrate of silver three times a week, and gentle and gradual dilatation with an elastic bougie once or twice a week. That dilatation exerts a powerful influence in curing dysmenorrhœa, is evidenced by the known fact that if the patient could become pregnant and give birth to a child she would be cured. In painful menstruation, there will almost always be found, besides spasmodic contraction of the os tincæ, either fissures, abrasions, excoriations, inflammation, or tumefaction.

Mr. Mackintosh, so long ago as in 1823, gives in his very able work on the "*Principles of Pathology and Practice of Medicine*," an ingenious theory on dysmenorrhœa. He believes that in this disease there exists constriction of the canal of the cervix uteri,—hence he practised dilatation with much success. I am aware, however, that there are those who look upon dilatation of the os tincæ by a bougie with great distrust, considering it as a very dangerous and hazardous operation; yet strange, passing strange, these very same surgeons do not hesitate for a moment to thrust into the os tincæ a large prepared sponge tent, which is known to be attended by far greater danger than by the gentle and gradual dilatation of an elastic bougie.

M. Pinel Grandchamp, on the authority of Mr. F. Le Gros Clark, entertains a similar opinion in relation to the liability of fissure attacking the vulva, that M. Paré did in relation to its liability of attacking the os tincæ. Mr. F. Le Gros Clark says that,—"This fissure, connected with painful spasm of the sphincters of the anus, had been observed only in the anal region, until M. Pinel Grandchamp remarked a similar condition of the vulva, where the constriction was so firm that the marriage rites could not be fulfilled. Feeling convinced of the analogy of this case with stricture of the anus, Grandchamp made a deep incision, dividing the commissure, the mucous membrane,

and the sphincter of the vulva, to the extent of two inches. The contraction was cured, and the parts resumed their normal condition." (*Baron Dupuytren's Clinical Lectures. Translated by F. Le Gros Clark, p.* 149. *London*, 1845.) But I must stop here, as this digression has perhaps already been carried too far.

For the purpose of the better elucidation of this subject, I would observe here that anal fissure might be distinguished into two stages. In the first stage the idiopathic disease of the mucous membrane, or muco-cutaneous coat of the part, has not yet arrived at that degree of irritation or excitation as to result in communicating its excitability to the muscular coat, or to the fibres of one or both sphincter ani muscles, inducing in them spasmodic contraction; for after the first manifestation of the disease, some time must necessarily elapse before spasmodic contraction takes place, and this period, be it longer or shorter, constitutes the first stage of the disease. In the second stage the primary disease has arrived at that extreme degree of excitability as to induce spasm of one or both sphincters of the anus, after every movement of the bowels, or other disturbance of the parts. Any idiopathic disease of the mucous membrane of the inferior extremity of the rectum, immediately over or within the grasp of the sphinctores ani, is liable sooner or later to become so irritable as to induce spasm of those muscles; indeed, disease in the genito-urinary organs is liable also to produce the same, and often does. The chief error, then, of the ancients consisted in omitting the second, or that stage manifested by anal spasm; that of some of the moderns, in considering the second or spasmodic stage as the real or idiopathic disease, and so treating it; whilst the error of other moderns again consists in considering each stage as a separate and independent disease, denominating the first, *anal fissure*, and the second, *spasmodic or painful contraction of the sphincter ani.*

I have already given what in my opinion were the reasons why the ancients omitted anal spasm in describing anal fissure,—namely, that they considered it as a different or an independent disease altogether, as many of the moderns have since done and now do. This, however, is conjecture merely, as there is no positive evidence of it in any of their writings, as far as my knowledge extends.

Our attention will now be turned to the theory of those of the moderns who teach that anal spasm, the second stage of anal fissure, is itself in reality the idiopathic or real disease, of which the breach of surface, or fissure, if any exists, is but an accidental accompaniment, or consequence, &c. This spasmodic contraction, however, is a phenomenon which may or may not accompany fissure of the anus. It is not the anal spasm that constitutes the disease, for anal fissure may exist without this arbitrary contraction; but such contraction of the sphinctores ani never exists without an irritable fissure, an inflammation, a tumefaction, or some other primary disease of the inferior extremity of the rectum; or of some disease of the genito-urinary organs. This is the true doctrine, notwithstanding the declarations to the contrary of such highly eminent surgeons as MM. Boyer, Dupuytren, Brodie, and others. Their declarations, however, have never been verified in any one instance by any satisfactory *ante-* or *post-mortem* examination, and rest merely upon assertion. I have very carefully examined, in every conceivable manner, a large number, of cases, some under the influence of anæsthetics and others not; and I have yet to observe the first case of painful spasm of the anus, that could not be plainly traced to primary disease in the mucous membrane of the part, or to some disease in the genito-urinary organs. These authorities seem to fix their whole attention on the local spasm of the sphincter ani, as if that condition of the muscle constituted the essence of the disease of which it is in truth only a symp-

tom; hence their whole treatment is directed to the measures to remove the spasm, instead of such as would attack its cause, the real disease. On this subject, however, M. Boyer seems to have some doubts, not being so emphatic, so decided, as MM. Dupuytren and Brodie. He says,—"Si nous mettions plus d'importance à suivre un ordre très méthodique, qu' à bien caractériser une maladie inconnue jusqu'à présent, nous n'aurions pas commencé cet article par la description de la fissure. En effet, la gerçure de l'anus est constamment accompagnée de la constriction spasmodique des sphincters; mais cette constriction existe quelquefois sans gerçure, peut-être même celle-ci n'est-elle qu'un effet ou une complication de la première. Nous avons observé bien plus souvent la fissure, ou, si l'on veut, la constriction avec fissure, que la constriction sans fissure. Nous avons trouvé entre le nombre relatif de ces deux maladies, ou de ces deux états de la même maladie, le rapport de neuf à un: voilà notre excuse. Il est probable cependant que, lorsque la constriction et la gerçure existent, ces deux affections n'ont pas commencé simultanément; ou la gerçure a amené la constriction, ou la constriction a précédé la gerçure; de sorte que l'une de ces affections serait primitive, et l'autre accessoire ou consécutive; mais je n'ai jamais vu de gerçure sans constriction, et j'ai plusieurs fois rencontré celle-ci sans fissure. L'incision des sphincters fait disparaître la fissure, sans qu'il soit nécessaire de porter sur elle l'instrument tranchant.

"On pourrait présumer d'après cela, ce me semble, que l'affection principale est le resserrement spasmodique."—(*Traité des Maladies Chirurgicales. Tome VI. p.* 609. *Cinquième Edit. Paris*, 1849.)

On this subject M. Dupuytren says:—"La gravité de cette affection dépend donc principalement du spasme douloureux des constricteurs de l'anus; la fissure n'est même qu'un accident; ce qui le démontrerait c'est l'existence de

la constriction douloureuse sans gerçure, qui, d'après des chirurgiens célèbres, serait à l'autre cas comme 1 est à 4."

And again M. Dupuytren says :—" La constriction spasmodique du sphincter, avons-nous dit, est la lésion véritable; (l'ulcération alongée, nommée fissure ou gerçure, n'est qu'un phénomène secondaire."—(*Leçons Orales de Clinique Chirurgicale. Tome III. Article X. pp.* 51–52. *Bruxelles*, 1836.)

I have presented MM. Boyer and Dupuytren fully and fairly in their own language, and it will be perceived that they both teach that the spasmodic contraction of the sphinctores ani muscles is the primary or real disease, and that the elongated ulcer called fissure of the anus is but a secondary phenomenon. They believed that by curing the anal spasm the disease was cured; hence M. Boyer proposed to remove the constriction by the complete division of the two sphincters of the anus with the bistoury; whilst M. Dupuytren proposed to fulfil the same indication by the anti-contractile property of *belladonna*, applied to the parts in the form of his celebrated ointment, prepared according to his favorite formula, as follows :—

Recipe, Extracti Belladonnæ,
Pulveris Plumbi Acetatis, ana, drachmam unam,
Adipis Suillæ, drachmas sex.
Misce et fiat unguentum.

It will be observed that whilst the theory of these two celebrated surgeons is nearly identical, the treatment of each differs very essentially; that of M. Dupuytren is the most rational, however, and has in several respects decidedly the advantage, inasmuch as his ointment, while it tends to relax the constricted muscles, at the same time heals the fissure, which is the primary cause of the constriction, is attended with but little danger and leaves no subsequent bad results.

Sir Benjamin Brodie considered the elongated ulcer, called fissure of the anus, as the result of the spasmodic contracted and hypertrophied sphincter ani; and to the

morbid action of this muscle he ascribed the severe suffering and distress which always attend anal fissure.—(*Clinical Lectures on Surgery. Lect. xxxvi. p.* 322. *Philadelphia Edition*, 1846.)

I will now present the opinions of MM. Blandin, Sanson, Quain, and Bushe on this subject, in opposition to the theory of MM. Boyer, Dupuytren, and Brodie.

M. Blandin makes the following very pertinent remarks on this subject. He says :—" Suivant M. le professeur Boyer, dont l'opinion est d'un si grand poids dans tout ce qui a trait à notre science, et à ce point de chirurgie en particulier, la constriction spasmodique de l'anus précède le développement des fissures les plus graves, et doit en être considérée comme la plus remarquable prédisposition. Il est impossible de douter que cet état de l'anus, lorsqu'il existe, ne dispose à la fissure, mais nous ne pouvons nous empêcher de dire ici que nous croyons que le spasme de l'anus est bien plus souvent l'effet que la cause de la fissure à l'anus. La contraction spasmodique du sphincter arrive, parce que l'anus est irrité par l'inflammation de la fissure ; elle est très-forte quand la fissure est très-enflammée, surtout elle s'accroit par le passage des matières fécales pendant les excrétions, pour la même cause. Le sphincter anal se contracte sous l'influence de l'irritation de la fissure, comme l'estomac, comme l'intestin se contractent lors de l'irritation ou de l'ulcération de la tunique muqueuse qui les tapisse. Que si l'on objectait que certaines fissures seulement sont accompagnées de la contraction spasmodique du sphincter, nous répondrions que la chose ne doit point surprendre ; car le sphincter se ressent seulement de l'influence de l'irritation de la muqueuse qu'il embrasse, et que par conséquent les fissures qui lui sont supérieures ou inférieures, ne devaient pas être accompagnées de la contraction, tandis qu'il en devait être et qu'il en est autrement de celles qui siégent en dedans de lui."—(*Dictionnaire*

de Médecine et de Chirurgie Pratiques. Tome VIII. p. 157. *Paris*, 1832.)

M. Sanson says:—"Nous croyons au contraire que la fissure ou au moins l'irritation de la partie, précède et provoque la constriction spasmodique."—(*Nouveaux Eléments de Pathologie Medico-Chirurgicale. Tome III. p.* 635. *Quatrième Edit. Paris*, 1844.)

The able and distinguished Mr. Quain is very clear and very emphatic upon this subject, and his argument is indeed unanswerable. He says:—"The spasm of the sphincter in fissure is no more the actual disease than the spasm of the *orbicularis palpebrarum* is that curious and painful malady so often met with among children, *strumous ophthalmia*. The passage of fecal matter is in the one case, what the stimulus of light is in the other. The muscular contraction is equally intense in both; and the division of the muscle is no more necessary for the cure of the one, than of the other. Doubtless the spasm very largely aggravates the suffering in both instances. Its cessation, however, in the complaint (fissure) we are especially engaged with, by division of the ulcer and the mucous membrane only, proves sufficiently that the muscle is not the seat of the disease." —(*The Diseases of the Rectum. Second Edition, p.* 176. *New York*, 1855.)

Dr. Bushe on the same subject says:—"To me it appears illogical to assert that fissure is the consequence, or a complication of spasm, because the fissure is always accompanied with spasm, and spasm sometimes exists without fissure. Now that spasm may cause fissure, I have before explained; but that fissure may arise from other causes, is, I think, beyond dispute."—(*A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus, p.* 120. *New York*, 1837.)

M. Velpeau, in order to reconcile somewhat these several conflicting views, says:—"Perhaps, however, there may be

some means of reconciling opinions on this interesting point in the history of fissure of the anus. Thus we can understand how a small fissure, being irritated by the passage of stercoraceous matter, may excite spasmodic constriction in the muscular bands underneath it; and again, we can believe that strong spasmodic contraction of the anus, by inducing constipation, may induce excoriation of the skin about the anus, and thus become a cause of fissure. Under this point of view contraction of the sphincter ani and fissure are two distinct affections which are independent, but have a strong tendency to merge, one into the other."—(*Clinical Lecture on Fissure of the Anus, in Provincial Medical and Surgical Journal. April* 3, 1841.)

This highly important subject will receive still further elucidation in the next section, while discussing the highly interesting question of the independent existence of anal spasm, especially as being a separate or distinct disease from anal fissure, as taught by a large number of the moderns.

I would here remark that some of the authors whom I quote in this work make no distinction between the external and internal sphincter ani, but speak of both muscles as one, as all the early anatomists do, which they call the *sphincter ani*, thus confounding both sphincters. When they speak of spasmodic contraction of the sphincter ani, they mean both muscles, and when they speak of incising the sphincter ani, they mean the same. It will be well for the reader to note this, and recognize this distinction.

SECTION II.

SPASMODIC CONTRACTION OF THE ANUS.

1. It is well known that nervous irritation in muscular parts often occasions partial and sometimes obstinate contractions;

and when this effect takes place in the anal canal, it constitutes what is generally called spasmodic contraction of the anus. In spasmodic contraction, inflammation and nervous irritation are always present in a greater or less degree. With regard to muscular contraction, I would observe that there are three varieties, which can be plainly distinguished in practice: the spasmodic contraction, which can always be dilated to the full size of the canal in which it exists; the permanent or organic, which admits of no such dilatation, and the mixed kind, which partakes of the characters of both. The two last can not only be detected in life, but can be demonstrated *post-mortem*. Of the first, however, nothing can be learned by dissection after death, because the spasm depends entirely upon an active principle which ceases with life. It will be readily conceived how a purely spasmodic contraction may be converted into a permanent or mixed one. I am of opinion that a spasmodic contraction almost always precedes a permanent or organic one, upon the principle that the parts, being held so repeatedly and so continuously in a contracted state, ultimately grow rigid and unyielding. Upon the same principle muscular fibres in other parts sometimes become fixed, of which we have an instance in irremediable trismus.

2. *Anal Spasm as an Entity—A Disease in itself.* The independent existence of spasmodic contraction of one or both sphincters of the anus is a theory held and taught by some of the most able surgical writers on the diseases of the rectum. But as the principle rests purely upon the evidence of facts, fairly and fully ascertained and set forth, they have, in my opinion, failed to establish it. The recorded cases and examinations which they present for the purpose of illustrating and confirming this doctrine, are not given with the detail and with the precision of language which are essentially necessary to render such evidence in surgery a substitute for personal experience. The confusion and

conflict of principles in their practical directions are so obvious that the most superficial observer cannot fail to perceive them; for under the head "*Spasmodic Contraction of the Sphincter Ani*" they enumerate the features of various diseases, not less different in their appropriate treatment than in their ætiology and nature; consequently their attempts at making out a clear diagnosis are a complete failure.

I will now present the names of a number of able authors who have treated anal spasm as an entity—a disease in itself—and who have made it the subject of special consideration; and I will endeavor to prove that the numerous cases they present to illustrate this theory of anal spasm are in reality cases of anal fissure, or of some other disease of the mucous membrane of the inferior extremity of the rectum, or of disease in the genito-urinary organs, and not cases of primary or independent disease of the sphincter ani muscle itself; and that instead of the phenomenon of spasmodic contraction in these cases being an evidence of primary disease in the sphincter ani itself, it is merely a symptom, or a manifestation of disease in its vicinity. In extenuation, however, of the want of the proper knowledge on this subject on the part of these authorities, it may be observed that the great difficulty and extreme pain always attending an examination *per anum*, during the continuance of the spasm in these cases, precluded the possibility of making a minute inspection of the parts, so absolutely essential to rendering a clear diagnosis. This great difficulty and this severe pain are at the present day annihilated by the use of anæsthetics, and the now common use of the anal speculum as well as the rectal endoscope.

Spasmodic contraction of the anus, besides being caused, as before observed, by disease of the mucous membrane of the inferior extremity of the rectum, is in some instances consecutive to disease in the genito-urinary organs, as will

be abundantly shown hereafter. As is well known, the rectum, in its course through the pelvis, lies in close relation with the *prostate gland*, *vesiculæ seminales*, *bladder* and *urethra* in the male, and with the *uterus* and the *vagina* in the female. The association of this organ with so many important viscera of the pelvis is so close, both in consequence of their proximity and their combined action in the performance of certain functions, that any unusual excitement of the latter organs is exceedingly liable to extend itself to the former; then how varied and how great must the sympathies be which result from this extensive and multiplied relation of contiguity.

The first authority I shall adduce will be that of M. Boyer, as he stands at the head of the roll of eminent surgeons who, in modern times, advocated the doctrine that anal spasm is an entity, an idiopathic disease, as I have shown in the preceding section. He treats of "*Constriction with Fissure*" and "*Constriction without Fissure*," and ascribes precisely the same symptoms to both; but he makes the diagnosis between them to depend upon the presence, in the first, of fixed pain at some point in the contour of the anus or rectum, together with a breach of surface; whilst in the last these are entirely absent. To illustrate and establish the doctrine that anal spasm is an idiopathic disease—that is, "*Constriction without Fissure*"—he reports three cases which came under his own immediate observation. These cases, according to his arrangement or series, are numbered *three*, *four*, and *five*. In carefully reading the first of these, headed "*Constriction sans gerçure*," I find that he makes no mention of having made any examination of the anus and rectum, and without such examination, how, I ask, could he determine whether there was a crevice or not? He seems, however, simply to have taken it for granted that there was none; at least he presents no evidence whatever of this fact. This case must therefore be laid aside as of

no value in this controversy. In the remaining two cases, *four* and *five*, M. Boyer did make a digital examination of the rectum, consequently I will present them in full in his own language.

"Obs. IV.—*Constriction sans fissure.* Laurent Cisterne éprouva, à l'âge de trente et un ans, après une longue constipation, des douleurs vives à l'anus, que les efforts qu'il faisait pour aller à la selle rendaient atroces. Dès ce moment, les évacuations alvines ne purent se faire qu'avec des souffrances inouies, qui duraient quatre à cinq heures. Lorsqu'il était debout ou couché, il souffrait peu ; mais assis, les douleurs se faisaient sentir plus vivement : il crut donc devoir quitter son métier de cordonnier."

"Pendant trente mois, les laxatifs purent seuls produire quelque soulagement ; tous les autres remèdes furent sans effet."

"Il entra à l'hôpital de la Charité le 26 novembre, 1809. En explorant l'anus, je découvris, du côté droit, un peu au-dessus de cette ouverture, un point dur, épais et comme calleux ; ce point était très-douloureux et le siége principal de la douleur pendant les selles. Le sphincter se contractait fortement sur mon doigt, surtout lorsqu'il pressait ce point dur. Je mis le malade à la diète et à l'usage des délayants; je prescrivis un léger purgatif, le lendemain un lavement, et le jour suivant je coupai le sphincter en travers sur le point dur, épais et douloureux, dont j'ai parlé. La plaie se cicatrisa lentement; pendant quelque temps, les matières fécales causèrent, en passant sur la plaie et ensuite sur la cicatrice, quelques douleurs obscures ; mais cette partie cessa d'être sensible, et lorsque, plusieurs mois après sa sortie de l'hôpital, cet homme vint nous voir, comme nous l'en avions prié, il était parfaitement guéri."—(*Op. Cit.*, *p.* 617.)

"Obs. V.—*Constriction sans fissure.* Alexis Cuby, âgé de cinquante-deux ans, éprouvait depuis deux ans et demi environ, en allant à la selle, des douleurs qui, peu vives dans

le commencement, et se faisant sentir seulement par intervalles, devinrent tellement aiguës que le malade les comparaît à un fer rouge qu'on lui aurait introduit dans le rectum. L'usage dès lavements préparés avec des substances narcotiques ne procura qu'un soulagement passager ; tous les autres remèdes furent également sans succès. Cuby vint me consulter ; je lui dis qu'une opération seule pourrait mettre fin à ses souffrances. Il entra à l'hôpital de la Charité. L'anus était tellement serré, que mon doigt ne pénétra qu'avec peine et en causant de vives douleurs dans l'intestin rectum. Vers le côté gauche, je crus sentir une gerçure : c'est là que le malade prétendit éprouver les douleurs les plus aiguës.

" Après avoir préparé le malade pendant quelques jours, je fendis le sphincter sur le point le plus douloureux, sur l'endroit même où j'avais cru rencontrer une fissure ; je fis continuer l'usage des mèches pendant quarante et un jours. Cet homme sortit de l'hôpital peu de temps après, pouvant aller depuis un mois à la garde-robe sans éprouver la moindre douleur."—(*Op. Cit.*, *p.* 618.)

It will be plainly perceived from reading the graphic description given of these two cases by M. Boyer, that they were cases of fissura ani, attended by sympathetic spasm of the sphincter ani muscle or muscles, and not an idiopathic disease of these muscles themselves. It is distinctly stated by M. Boyer, that increased pain was induced in each case by pressure with the finger upon a particular spot in the rectum ; and not only so, but he says he distinctly felt, in one case, an induration at the tender point, and to which the patient referred all his sufferings ; in the other case he thought he felt a fissure, an excoriation, or an ulcer at the tender point, and at which the patient claimed to feel the greatest pain.

These cases were not examined with the speculum ani ; indeed this was not necessary, as the digital examination was alone sufficient to determine them to have been disease

of the mucous membrane. They therefore entirely fail, in my opinion, to exemplify the characteristics of the disease which this distinguished author intended them.

The late and distinguished Mr. Copeland introduced the subject of anal spasm under the head, "Powerful or Diseased Action of the Sphincter Muscle."—(*Observations on the Principal Diseases of the Rectum and Anus. Second Edition, pp.* 48, 132. *London*, 1814.) Mr. Copeland considered the powerful or diseased action, as he calls it, of the sphincter ani, as an idiopathic affection of the muscle itself, the source of such action. His views upon this subject, however, are somewhat vague and uncertain, and he fails to make out a clear diagnosis. He fails to prove the independent existence of muscular spasmodic contraction; and he also entirely fails to make that necessary distinction between a purely spasmodic contraction of the sphincter ani and a mixed contraction of the same—that is, one partly spasmodic, and partly organic, and a permanent or organic stricture of the anus, or anal canal. I will hereafter show how a purely spasmodic contraction of the sphincter ani may result in a permanent or organic stricture of the orifice and canal of the anus; and also how the same muscle, from the continuance of the same cause, may become hypertrophied and indurated. I will also show that the same muscle is sometimes preternaturally large and active, the result of a congenital malformation.

Mr. Copeland reports three cases. The first case was evidently not a purely spasmodic contraction of the sphincter muscle, at the time first seen by Mr. C., whatever it might have been originally. It was doubtless the result of chronic inflammation of the mucous membrane of the inferior extremity of the rectum, and the contraction, from being at first purely spasmodic, became more or less organic. The same may be said of his second case. In this case the principal contraction was five inches up the rectum, and

the sphincter ani was found to be unusually strong and broad. The third case was that of a medical gentleman, a former pupil of the celebrated Mr. Pott. He describes his own case most graphically, and the agonizing pains he endured; yet gives not the slightest intimation of what he believed to be the true nature and cause of his intolerable and exquisite suffering, more than remarking that his medical friends considered it spasmodic. This was a case of real fissure of the anus, for a better description of anal fissure could not have been given than this medical gentleman gave of his own case. Had there been a proper exploration of the rectum made in this instance, the fissure would have been easily detected and as easily cured. Here the spasmodic contraction was not the real disease, but the mere effect or symptom of it.

Mr. Copeland treated these cases rationally, by dilatation, with more or less success.

Mr. Baillie reported a case of what he called, "Stricture of the Rectum, produced by Spasmodic Contraction of the Internal and External Sphincter of the Anus."—(*Medical Transactions of the College of Physicians of London. Vol. V. p.* 136. *London*, 1815.) After giving a brief description of permanent organic stricture of the rectum, and before describing the case in question, Mr. Baillie says:—"Another kind of stricture, however, occasionally occurs in the rectum, much less formidable in its nature, which is very rare, and has hitherto been taken little notice of by practitioners. This is not attended with any diseased structure of the coats of the rectum, but depends upon a contraction, more or less permanent, of the sphincters of the anus."—(*Loc. cit.*) I do not agree with Mr. Baillie when he says that this kind of stricture (meaning spasmodic stricture) is unattended by any diseased structure of the coats of the rectum, and that it depends upon a contraction, more or less permanent, of the sphincters of the anus. Mr. Baillie, like Mr. Cope-

land, does not make that distinction between a purely spasmodic stricture or contraction, a mixed one, and a permanent or organic one, which is so necessary to a clear conception of the subject. This case of Mr. Baillie was doubtless originally purely spasmodic, but had become mixed. He makes the contraction in spasmodic stricture the primary, the real, or the independent disease. His own case, however, does not bear him out in this respect, for it was evidently a case of either anal fissure, or inflammation, or irritation of the mucous membrane of the rectum, or muco-cutaneous coat about the anus. He made no examination of the rectum in this case, except a digital one, and that under the unfavorable circumstances of the anal contraction being so great that the index finger was admitted with difficulty. A small fissure, hid in the folds of the canal, however, might very easily elude detection by the finger alone. The evident cause of the spasmodic and subsequent more or less permanent or organic contraction of the sphinctores ani muscles, in Mr. Baillie's case, was *the sudden translation of the herpetic eruption from the right leg of the patient to the anus and anal canal.* This was the direct cause of the structural disease of the inferior extremity of the rectum in this case, and which gave rise, subsequently, to the spasmodic, as well as the more or less permanent contraction which resulted in this case. I will show hereafter that cutaneous affections of the anus, or anal region, are often the cause of anal fissure as well as spasmodic and organic contraction of the anus.

Mr. Gaitskell reported a case of what he termed "Spasmodic Contractions of the Sphincter Ani Muscle."—(*London Medical Repository. Vol. IV. p.* 51. *London*, 1815.) Mr. Gaitskell considered the spasmodic contractions in this case as a disease of the muscle itself; for he says in relation to it, that he was induced to consult the valuable work of Mr. Copeland on the diseases of the rectum, in which,

under the head "*Disease of the Sphincter Muscle*," he found a solution of the difficulties which he encountered in the early treatment of it. His description of this case, however, proves it to have been a clear case of anal fissure, for no one at all familiar with that disease could come to any other conclusion, after reading his plain description of it. His treatment was rational and effectual, not being the division of the sphinctores ani. He says he effected a cure of his patient by passing a large bougie up the rectum, night and morning, for two weeks, and keeping the bowels open by castor oil draughts. At first considerable relief was obtained by passing up the rectum, every evening, a small candle smeared with a liniment of almond oil, lime-water, and laudanum.

Mr. Blackett reported a case of what he called, "Spasmodic Stricture of the Rectum."—(*London Repository. Vol. VII. p.* 377. *London*, 1817.) The spasmodic stricture or contraction in this case was caused by *rectitis*, which was evidently the disease from which the patient suffered; although Mr. Blackett gives no intimation whatever of this. I have in my practice witnessed several cases of spasmodic contraction of the sphincters of the anus induced by inflammation of the rectum and anus.

Mr. White, under the head, "Different Forms of Contraction," makes the following pertinent remarks:—"The most simple form of contraction which we meet with in the lower part of the intestinal canal, is that produced by spasm, which consists in an inordinate degree of contraction in the muscular coat of the intestine, excited by some irritating cause. It happens, however, in ordinary cases, that the spasm ceases as soon as the exciting cause is removed. But when there is a frequent repetition, or a long continuance of the exciting cause, a permanent state of spasmodic stricture may be induced, and remain even after the exciting cause has ceased to act."

"Though it is evident that any part of the canal may be liable to spasmodic contraction, from the nature of its structure, and the office to which it is destined, yet the complaint is found by experience to happen most frequently towards its lower extremity. Very often a permanent spasmodic contraction occurs at the sphincter ani."—(*Observations on Strictures of the Rectum. Third Edition, p.* 10. *Bath*, 1820.)

Mr. White is clearly of opinion that the spasmodic contraction of the muscular fibres of the rectum, or of the sphincter ani, is not a primary affection, but induced by some exciting cause, of whatever nature it may be, and that the spasm immediately ceases on the removal of such a cause. What Mr. White means by *permanent spasmodic contraction*, I cannot so clearly comprehend. I can very readily understand how the long and often repeated spasmodic contraction of the sphincter ani muscle, or of the circular fibres of the rectum, would ultimately result in an organic or permanent stricture or contraction of the anal orifice, or of the canal of the rectum. This contraction, however, would no longer be spasmodic, but organic or permanent, having through the medium of inflammation and subsequent plastic exudation and thickening become so. In such a case the anus gradually becomes permanently contracted and more or less indurated, and in the exact ratio in which this organic change takes place, the spasmodic character of the case disappears.

M. Delpech, the eminent Montpellier Professor, like Mr. White, alludes to the same subject. He says:—"Un spasme fixe du muscle sphincter externe de l'anus accompagné et peut-être produit par une ou plusieurs gerçures placées dans les rides rayonnantes de cette overture." (*Précis Élémentaire des Maladies réputées Chirurgicales. Tome I. p.* 598. *Paris*, 1816.)

Mr. Howship reports two cases of what he calls "Ex-

treme Hæmorrhoidal Irritation." I will present a part of his description of the first case:—"November 23d, 1822, I was requested by Mr. Hardy, of Walworth, to visit a young lady, a patient of his, who had previously seen several physicians and surgeons, having for nearly six months suffered the most extreme distress and pain, apparently from some very small hæmorrhoidal tumors. To alleviate her misery every internal medicine, capable either of allaying pain or regulating the action of the bowels, and every anodyne, sedative, or astringent local application, had been tried without affording the least relief. The tongue was white; the pulse was one hundred, small and weak; the strength and flesh rapidly wasting.

"On examining the parts outwardly, I at first conceived there was a small hard tumor behind the integuments at the margin of the sphincter; but, the finger gently passed into the bowel, it turned out to have been a spasmodic and painfully contracted state of the sphincter, which, once overpowered, became relaxed, thin, and comparatively painless. The hæmorrhoidal tumors, as Mr. Hardy observed, were too inconsiderable to explain so much distress as this young lady had suffered.

"The state of this young lady's habit was evidently irritable, and although opiates had failed to relieve, it appeared to me probable the temporary suspension of spasm by dilatation of the sphincter might be useful, and perhaps do more than was expected."—(*Practical Observations on some of the Diseases of the Lower Intestines and Anus. Third Edition, p.* 240. *London*, 1824.) This interesting case of Mr. Howship was no doubt a plain case of anal fissure accompanied by anal spasm and condylomata or anal excrescences, and not a case of hæmorrhoids. Had a careful examination of the anus and rectum been made in this instance, a fissure would doubtless have been discovered. The treatment of this case was by dilatation, perseveringly carried out by the

use of wax tapers and a metallic bougie five-eighths of an inch in diameter. This treatment succeeded in relieving the spasm, and to a great extent the pain.

Mr. Calvert, under the head, "Morbid Contraction of the Anus," introduces the subject of spasmodic contraction of the sphinctores ani muscles.—(*A Practical Treatise on Hæmorrhoids, Strictures, and other important Diseases of the Rectum and Anus, p.* 210. *London*, 1824.)

Mr. Calvert considers spasmodic contraction of the anal sphincters to be an idiopathic, or a substantive disease; but he entirely fails to establish a correct or satisfactory diagnosis; indeed, he appears much confused and undecided respecting the nature, cause, and treatment. He says: "With regard to the mode of treatment of cases of spasmodic contraction of the sphincter muscles, it is very uncertain in the result, unless when it is evidently connected with inflammation; nothing that is decidedly advantageous and generally applicable can be gleaned from past experience; and amongst the very few who have noticed this complaint, a considerable difference of opinion exists. As it is frequently connected with fissures of the inner membrane of the anus, it has been supposed by some practitioners that these are the cause, whilst others have considered them to be a consequence of the contraction, and have been influenced accordingly with regard to the means of cure most likely to be attended with success."—(*Op. cit. p.* 226.) And again Mr. Calvert remarks: "Although this form of contraction of the anus is often connected with fissures, yet as it sometimes exists separately, it is evident that these, when present, cannot with any degree of certainty be considered as the cause, and that we cannot conclude the complaint will disappear if these are cured."—(*Op. cit. p.* 229.) From this conclusion of Mr. Calvert I dissent *in toto*. We can most certainly conclude that if the fissures, the

cause, are cured, the spasmodic contraction, the effect, will sooner or later cease.

Mr. Mayo, under the head, "Stricture of the Rectum," introduces the subject of spasmodic contraction of the sphincter ani, which he says is a kind of cramp; and from the fact of presenting it under the above head, and not under that of "Fissures of the Rectum," he considers it a separate and distinct disease from rectal or anal fissure.—(*Observations on Injuries and Diseases of the Rectum, p.* 184. *London*, 1833.)

It is remarkable that so acute an observer as Mr. Mayo should have entirely overlooked the phenomenon of spasmodic contraction of the sphincter ani when treating of "Fissures of the Rectum," in the previous part of his work. He reports three cases of fissure, in the last of which there existed positive spasm of the sphincter ani; yet in his description of fissure he does not mention spasm as ever attending that disease. His treatment of rectal fissures, as he termed the disease, consisted in the application of the solid nitrate of silver, or mercurial ointment, and on these failing, then division of the sphincter ani muscle.—(*Op. cit. p.* 2.)

Chelius introduces the subject of anal spasm, under the head, "Narrowing and Closure of the Rectum."—(*Handbuch der Chirurgie, Band* 11, *S.* 34. *Heidelberg und Leipzig*, 1827.) He does not treat of anal fissure at all, only in connection with spasmodic contraction of the anus, of which he believes the anal fissure to be the exciting cause when present, and that it is almost always present. Although he presents spasmodic contraction of the anus as an idiopathic disease, yet he seems to have strong doubts of it; says its causes are very obscure, and that he has ascertained by experience that it is oftener the consequence of seemingly insignificant causes —such as small ulcers, fissures, excoriations, and small excrescences, than is generally believed. In this I fully agree with him. He also says that he has ascertained that by

curing the fissure, or by removing the excrescences, &c., the anal spasm will at once cease. This is precisely my experience too. But he says that if such treatment is too long delayed, nothing short of the complete division of the anal sphincter will cure the complaint. In this I by no means agree with him.

Mr. Salmon reports a case of contracted sphincter ani, the subject of which was a medical officer of the British army. This case is reported in the language of the patient himself.—(*A Practical Essay on Stricture of the Rectum, Fourth Edition, p.* 81. *London*, 1833.)

This was evidently a case of anal fissure, complicated with condylomata and anal fistula, a not unusual complication, as I will show in numerous instances in subsequent pages of this work. Had the attendants of this patient examined carefully the base of the external hæmorrhoid (excrescence), which he names in describing his own case, they would have detected the inferior extremity of an anal fissure, which would have led them at once to the true source of all his agonizing and protracted suffering. Mr. Salmon considered the anal spasm, or contraction, in this case to be an idiopathic disease of the muscle itself; entertaining the erroneous belief that the whole of this patient's suffering originated in the *morbid condition* of the *sphincter externus* itself; hence he advised and executed the irrational and mischievous operation of the division of the sphincter externus. It is true, the patient says that this operation relieved him of his present suffering; yet it is equally true that he might have been entirely relieved by a milder, safer, more certain and more rational treatment.

Our late distinguished fellow-citizen, the lamented Dr. Bushe, treats spasmodic contraction of the sphincter ani as an idiopathic disease, considering it, in some instances, separate and distinct from anal fissure, and from neuralgia of the inferior extremity of the rectum; but his diagnosis is

too vague to be appreciated. He says he has demonstrated that spasmodic contraction of the sphincter ani may be produced by fissure, and that he has proved it to be occasionally the consequence of neuralgia; but, says he, "besides these there are two other species of spasmodic contraction of the sphincter—namely, that which depends upon functional or structural disease of the genito-urinary organs; and that in which we cannot trace any other primary affection, either in the rectum or elsewhere." He then reports six cases of spasmodic contraction of the sphincter ani, in which the genito-urinary organs were primarily affected. He next reports four cases, in which he says he could not discover any other primary disease, and then concludes by saying that, "as these four cases now related are the only substantive forms of spasmodic contraction of the sphincter ani that I have observed, I am disposed to consider it as a rare disease."—(*A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus, pp.* 119, 128. *New York,* 1837.)

Dr. Bushe rests the question of the independent existence of anal spasm entirely upon these four cases. But where are the proofs of the substantive form of the muscular spasm in these cases? It is not by any means a necessary consequence that, because he failed in these cases to trace the anal spasm to any primary affection, no such affection existed; or that on this account the spasmodic contraction must necessarily be the primary disease itself. The presumption is that anal spasm is always the result of some primary disease of the mucous membrane of the rectum, or muco-cutaneous coat about the anal orifice; or of some primary disease in the vicinity of the rectum and anus, whether we can trace or detect such primary affection or not; indeed, the spasmodic contraction of the anus is a positive evidence that such is the fact. To show how valueless are the assertions of Dr. Bushe, he made no

examination whatever of the anus and rectum in the first and second cases; consequently these two cases prove nothing. In the third case he admits that the anus was closed so firmly that the finger could only be entered with great difficulty; consequently no fair or satisfactory examination could be made under such circumstances. In the fourth and last case Dr. Bushe says that an examination was made carefully, but no structural disease could be discovered, as the pressure with the finger in the rectum produced no more pain in one part than in another, as all the parts touched were painful alike. But was not this diffused pain upon pressure evidence of disease of the mucous lining of the whole circumference of the inferior extremity of the rectum; and was not the spasmodic contraction in these two cases merely consecutive to it? I have no doubt whatever of this. A proper examination of the rectum with the speculum in these two cases, the patients having been under the influence of an anæsthetic, would doubtless have revealed this condition of the mucous membrane. Dr. Bushe in the exploration of these cases used no speculum ani, and no surgeon should affirm positively that no disease of the mucous membrane of the lower portion of the rectum exists, because he fails to detect it with the finger; for such disease may sometimes exist, and the surgeon entirely fail to detect it with the finger alone, several examples of which have come under my own observation. These cases, then, of Dr. Bushe, which were presented to show that there was no primary disease either in the rectum or in the genito-urinary organs to account for the spasmodic contraction, entirely fail, in my opinion, to do so. They fail to exemplify the characteristics of the disease for which they were adduced. They are indeed examples, not, however, of an idiopathic affection of the sphincter ani muscle, but of some primary disease of the mucous membrane of the part, or some primary disease in some of the adjoining organs,

attended merely with sympathetic spasmodic contraction of the sphincter ani muscle. Well may Dr. Bushe then say that he considers as rare the spasmodic contraction of the sphincter ani, as a substantive form of disease.

Mr. Curling introduces the subject of spasmodic contraction of the sphincter ani muscle under the head, "*Irritable Sphincter Muscle.*" Although he presents it as an idiopathic disease, his diagnosis is anything but clear. This is evident from the conclusion to which he arrives. He says: "Irritability of the sphincter occurs commonly in hysterical females, or in nervous, susceptible women who are accustomed to watch and to intensify every sensation. I have seldom met with it in other persons independently of some local source of irritation, as an ulcer, or an inflamed internal pile; and I believe that in men, simple irritability of the sphincter muscle is a rare complaint. The investigation of such a case is seldom satisfactory without an examination of the rectum with the speculum; and in most instances of irritable sphincter, I am convinced that some direct cause of irritation may be discovered by this means." —(*Observations on the Diseases of the Rectum. Third Edition, p.* 15. *London*, 1863.) With some of the sentiments of this very able and distinguished surgeon on this subject, as expressed above, I most cordially agree; but I believe that not only in most instances, but in every instance, if thoroughly examined and investigated, a direct cause, outside of the sphincter muscle itself, can always be found to account for the phenomenon of the spasmodic contraction.

Mr. Malyn, under the head, "*Spasm of the Anus*," introduces the subject of spasmodic contraction of the sphinctores ani muscles. His views are interesting, and deserve candid consideration. He says: "Spasm of the anus, it seems probable, is mostly the consequence of some preceding morbid irritation, situated either in the gut itself, or in some of the organs with which it is interested; and it conse-

quently ceases when that irritation is removed. Such is the case when the urinary or genital organs are excited; for though the sphincters, especially the external one, always participate more or less in the disturbance of those organs, their spasmodic action ceases when the others have regained their quiescence." "There appears, however, to be produced sometimes by an insidious and long-continued irritation in the intestine, or by the degrading broodings of a licentious mind, a spasmodic condition of the extremity of the rectum, which becomes a cause of its own continuance by reason of the inflammation which has been set up in the parts, and which their state of activity will not allow to subside. In this condition when by removing the cause alone, we do not remove the effect."—(*The Cyclopædia of Practical Surgery. By W. B. Costello, M D. Vol. I. Article Anus, p.* 339. *London*, 1841.)

Mr. Malyn looks upon anal spasm, occurring under certain circumstances, somewhat in the light of a substantive form of disease, and thinks that on this account it merits separate and distinct consideration; yet, with all his ingenuity, he fails to make it appear an independent disease or an entity, a disease in itself. I agree with Mr. Malyn, that in anal spasm the effect may under certain circumstances become more or less a cause, and a cause too of its own perpetuation to a certain extent—that is, it may aid by its long continuance in bringing about a morbid condition of the parts, consisting in inflammation, congestion, and exquisite irritability; so that, even if the primary cause should be removed, this morbid condition, the secondary cause, might still remain to keep up the spasm which aided in bringing it about. Indeed, anal spasm, when caused by fissure of the anus, or any other disease of the mucous membrane of the inferior extremity of the rectum, is to a certain extent more or less of an impediment to restoration, and prevents the cause which produced it from being as

speedily removed as it otherwise would be; hence, although a mere effect, it may require treatment. My method in such cases is to treat both the cause and the effect at the same time. Whilst I consider it unpathological to make anal spasm in such cases the chief object of attention and treatment, as many do, I nevertheless insist upon it that the spasm must not be entirely overlooked and neglected in the treatment, for its reaction may have considerable influence on the original *focus* of the disease. I, however, by no means agree with Mr. Malyn in the kind of treatment which is necessary to be adopted in such cases. I do not consider, as he does, that it is ever necessary to divide the sphincters of the anus, for I have never failed, in the worst cases, to easily and speedily overcome the spasm by the use of belladonna and proper dilatation; at the same time using proper measures to subdue the inflammation, the congestion, and the morbid irritability of the parts which are the primary cause of the anal spasm. I am aware that Mr. Malyn says that in the aggravated form of anal spasm the introduction of a bougie is unscientific in principle and inapplicable in practice.—(*Op. cit. p.* 340.) I, on the contrary, notwithstanding, do maintain that its proper use in such instances is both scientific in principle and highly applicable in practice, for I have successfully treated a number of just such cases. I would say in conclusion, that the operation of Mr. Malyn in dividing the sphincter ani muscles with the knife, is unscientific in principle and abominable in practice; and that it is like cutting the "*Gordian knot*," instead of untying it.

CHAPTER SECOND.

ANAL FISSURE.

CHAPTER II.

FISSURE OF THE ANUS.

Section I.—Name.

The term *fissure* is derived from the Latin *fissura*, a cleft, a slit, a chap,—from *findo*, to cleave, to slit, to chap.

Fissure of the Anus—English.
Fissura Ani—Latin.
Fissure à l'Anus—French.
Fissur des Afters—German.

There is great disagreement among medical writers with regard to the precise application of the term *fissure of the anus*. Mr. Mayo includes under it breaches of surface of all forms, whether linear or oblong, located anywhere in the inferior extremity of the rectum, and about the anal orifice, either within or without, and whether irritable and painful or attended by anal spasm or not (*Op. cit.*). This is applying to the term the most extensive application. M. Montegre classes under the same general head, fissures attended by spasm, rhagades, and simple crevices or chapping of the muco-cutaneous tissue about the anus. He says, under the head, "*Des crévasses, fissures ou rhagades à l'anus:*" "Ces trois mots ont une même signification. Il s'agit toujours d'une petite ulcération longitudinale, dont les variétés sont relatives seulement à la cause qui les a produites."—(*Des Hémorroïdes, ou Traité Analytique de toutes les affections hémorroïdales. Nouvelle Edit. p.* 51. *Paris*, 1819.) Some authorities consider the linear form of the ulcer and anal spasm as essential to the disease, and regard them in the relation of cause and effect; one party of these believing the anal spasm to be the primary symptom, whilst the other party consider the

fissure to be the primary disease. There are others again who go still further, and consider the anal spasm as the true, the real disease, and the fissure or linear ulcer as a mere secondary complication.

The term *fissure of the anus*, as I have already shown in the previous chapter, has been incorrectly applied by many authors to a phenomenon which sometimes attends the second or advanced stage of anal fissure, but which does not in reality constitute it, but is a mere symptom or an effect of it—I mean anal spasm. I have also shown that others, equally incorrect, have included in the term every superficial lesion situated in the anal canal, and about the margin of the anal orifice, of whatever character, whether idiopathic or not.

This term in its limited sense, or in its strict application, implies simply a superficial breach of surface, of a lineal or long and narrow shape, located on the mucous lining of the inferior extremity of the rectum; or on the muco-cutaneous coat about the anal orifice. The term, however, in its more extended sense is used to express those superficial ulcerations in which fissures sometimes terminate. Occasionally, too, superficial lesions are met with in this region, differing in form, yet having all the other characteristics peculiar to fissure; these must be included in the term, inasmuch as the mere form of the ulcer is not of itself the pathognomonic sign of the disease. The characteristic form of lesions in the inferior extremity of the rectum is no doubt communicated to them by the irregularities of the mucous lining in this locality, disposed as it is into numerous rugæ. I have myself particularly noticed, and it is worthy of observation, that, in the lower portion of the rectum, and more especially about the anal orifice, where the radiated duplicatures of the mucous membrane and muco-cutaneous coat are longitudinal, the ulcers are, with scarcely an exception, linear in form; whereas in the middle and superior

portion, where the folds are disposed transversely, they are almost always circular or oblong. But, as I have before remarked, the true character or nature of the disease cannot be determined by the mere form alone of the lesion, be it linear, circular, or oblong.

From these several considerations I conclude that the term *fissure of the anus*, which serves no purpose as a descriptive or a distinctive name, is not as good a one to designate this painful affection as might have been adopted; but its use has now been so long sanctioned by authority, that I do not feel at liberty to venture upon the substitution of a newly created one. The term thus retained as a nosological distinction, should be strictly confined to superficial breaches of surface in the anal region, of a highly sensitive, irritable, or painful character, whether linear, oblong, or circular, or whether attended by anal spasm or not.

The talented and ingenious author, Mr. Curling, already quoted, very appropriately denominates fissure of the anus "*Irritable Ulcer of the Rectum.*" This is what it really and truly is, regardless of its form. Mr. Curling objects to the term *fissure*, because it is so only in appearance, and not in reality. He says: "On examining the ulcer without distending the rectum, the lateral edges only being presented to view, the breach of surface has the appearance of a *fissure*—the term commonly given, but improperly, to this sore, which, though often originating in a rent, is obviously more than a mere cleft or fissure in the mucous membrane of the bowel." And again he says: "With the speculum, the longitudinal folds being stretched out, the ulcer can be fully exposed, and it is then clearly seen not to be a mere fissure, but a superficial sore."—(*Op. cit. p.* 6.)

Mr. Ashton, in commenting upon the remarks of Mr. Curling, says: "Although in many instances when the surgeon is first consulted, it (the fissure) may present the form of an oblong ulcer, yet I have no hesitation in saying the

primary condition was essentially a fissure or crack of the mucous membrane."—(*The Diseases, Injuries, and Malformations of the Rectum and Anus. Third Edition, p.* 45. *London,* 1860.)

I do not concur with Mr. Curling in the opinion that all lesions about the anus and in the anal canal, presenting a linear form and termed *fissures*, are only so in appearance and not in reality. That some such by long continuance become more extensive, degenerate into sores or ulcers, and lose their original form, is doubtless true; but such are the exception, not the rule. As far as my experience extends, in the largest majority of cases of long standing which have come under my own observation, I have found the breaches of surface to be of a linear form; they were doubtless of this shape originally, and they seemed to have maintained it. These cases were examined carefully with a speculum, and the ulcers did not only appear in the form of fissure previous to its use, but were by its use proved to be so in reality. Distention of the mucous membrane upon which they were located made no change in their form, from the lineal to the circular or oblong.

Mr. Quain may be said to object to the term fissure of the anus by implication, inasmuch as he does not use it to designate the disease so called, but treats of it under the head, "Painful Excoriations and Ulcers of the Skin and Mucous Membrane."—(*Op. cit. p.* 154.)

Mr. Smith introduces the subject of fissure of the anus under the head, "*Painful Ulcer of the Rectum.*" From the fact of substituting this term for that of *fissure of the anus*, it is evident that he considers the latter not as appropriate as his own, the former.—(*Hæmorrhoids and Prolapsus of the Rectum. Third Edition, p.* 124. *London,* 1862.)

It will be seen I have given three English authorities who repudiate the term *fissure of the anus.*

Section II.—Physiology.

It may be premised here that fissure of the anus is an idiopathic disease of the mucous membrane of the inferior portion of the rectum, or of the muco-cutaneous coat about the anal orifice; and not a disease of the muscular coat or muscular fibres of the intestine, nor of the sphinctores ani muscles. It consists in an idiopathic breach of surface, as a superficial ulcer, an excoriation or abrasion, and, as a general rule, has a linear, or long and narrow form. The disease is always attended by a peculiar kind of pain, of a sharp, lancinating, throbbing, burning, or smarting character, and sometimes, in the advanced stage, by a violent and arbitrary contraction of the sphincter or sphincters of the anus. The pain may, and often does occur in the act of defecation, but it most frequently comes on some time after the parts have been disturbed by this act, and irritated and excited by the passage of fæcal matter, or vitiated and stimulating secretions. The fissure in this peculiar condition, being thus highly irritated and excited, communicates this irritation and this excitability to the muscular coat and to the sphinctores ani, and causes one or both of them to contract violently upon the highly sensitive sore of the mucous membrane within its grasp; hence the additional or most exquisite pain which immediately follows this mechanical violence of grasping and compressing, and which lasts just as long as this exalted muscular constriction continues. The sphincter ani muscles are sympathetically impressed, or influenced by the morbid state of the fissure,—hence the spasm.

I would mention here, and facts tend to warrant the conclusion, that in some morbid conditions of the anus and anal region, whether induced by fissure or by some other cause, extreme sensibility of the nerves of the part, and spasmodic contraction of the anus, often co-exist as

parts of the same disease. When the nerves are rendered morbidly sensitive by the irritation and inflammation existing in the part, the violent pressure made upon them, in this highly sensitive state, by the excessive or inordinate contraction of the muscular fibres of the sphincter ani, must of necessity give origin to additional and excessive sensation. This, and the compression of the fissure by the same muscular fibres, are both causes of additional pain, by anal spasm. Any morbid sensibility of the mucous membrane of the inferior portion of the rectum disposes the muscular coat of the same to resist any distention, or extension, beyond its tonic contraction or quiescent state, or that state in which it is when not distended by fæces, gas, or any other foreign body. Neither will the sphincter ani muscles in this morbid condition of the parts admit of distention without the induction of agonizing pain. It is a question whether this arbitrary contraction of the sphincters of the anus would cause pain without a fissure, or any other disease of the mucous membrane of the part, as in cases in which the spasmodic contraction is caused by disease in the genito-urinary organs, some distance removed from them. It certainly would, but by no means to the same extent, unless firm pressure or distention was made, and then upon the removal of which it would cease. When the pain attending the spasmodic contraction is very intense, it is an evidence that it is owing to a fissure, or to some other disease of the mucous membrane of the part, which, without even being violently compressed by the contraction of the muscular fibres of the sphincters of the anus, would be more or less painful, especially after having been excited by the passage of highly acrid and stimulating dejections.

1. *Sensibility of the Terminal Outlets of the Body.* The sensibility of all mucous membranes is greatest at the extremities or the outlets of the canals which they line. When this membrane in such locality is diseased from

any cause, there is more or less pain experienced whenever the common function of the part is performed. The canal at this point sometimes contracts spasmodically on the application even of its own proper and natural contents, and offers more or less impediment to their passage. Indeed such disease of the mucous tissue always diminishes to a greater or less degree the canal it lines, and especially its terminal orifice, and makes any attempt to distend the same both difficult and painful. This is doubtless owing to the fact that the outlets of the body are supplied or endowed with a peculiar nervous influence which is obviously connected with their proper functions.

With especial reference to the terminal outlet of the intestinal canal and the disease in question, the direct cause of the extreme and agonizing pain is the result, to a great extent, as before remarked, of the violent involuntary spasmodic contraction of the sphincters of the anus upon the already highly painful and sensitive ulcer, thus rendering it if possible still more exquisitely painful, as well as more or less preventing it from healing. This view of the subject is in accordance with the pathology of the disease, as well as with the physiological condition of both sphinctores ani muscles, whose involuntary contraction, both tonic and spasmodic, is entirely owing to the peculiar nervous endowment previously named, as the latest pathological and physiological researches tend so strongly to demonstrate.

2. *Tonic and Muscular Contraction of the Anal Sphincters.* The sphinctores ani muscles may be said to display two kinds of contraction, the *tonic* and the *muscular*. The tonic contraction is that property in virtue of which they constantly tend to resume their natural or quiescent state whenever the cause which distended them and which brought into play their muscular contraction is removed. The normal condition, then, of these two muscles is unconscious contraction of their muscular fibres, and this contraction is increased

and rendered more effectual by the voluntary contraction of the levatores ani muscles. It is by the tonic contraction of the sphinctores ani that involuntary discharges of the fæces are prevented. In the healthy and natural state of the parts, this contraction does not close the anus or anal canal with any great degree of tightness, for the finger, or a proper sized bougie, warmed and lubricated, may always be insinuated with ease. The internal sphincter, as a general rule, is found to be more firmly contracted than the external, but not sufficiently so to produce very hard pressure upon the hæmorrhoidal plexus, or upon the mucous membrane; nor is it in turn strongly pressed upon by those fibres of the external sphincter which surround its neck.

3. *The Influence of the Will upon the Anal Sphincters.* The two sphincter muscles of the anus are said to be under the control of the will, but this must be accepted in a limited sense, for they are by no means completely so, especially the sphincter internus. They stand in physiological function between the involuntary and voluntary system of nerves, consequently an evacuation can often be voluntarily effected in concert with the action of the diaphragm and other abdominal muscles; but at other times they must necessarily obey the automatic movements of the organic functions of the intestines alone.

The expansion or relaxation of the anal sphincters, especially the external, which precedes the expulsive effort, is, to a certain extent, an act of the will, a circumstance which makes the resistance of these muscles more easily overcome. Contraction of the same, however, is always involuntary, and not at all under the control of the will.

The supposition that a special nervous influence is necessary to govern the relaxation and contraction of the anus, has been entertained by several eminent physiologists. The ingenious and talented Italian, Professor Bellingeri, held this view, and endeavored to demonstrate it by experiment.

In his experimental inquiry into the functions of the spinal marrow, he believes he has proved that the posterior columns of the spinal marrow give nerves to the external sphincter which endow it with the power of contraction, whilst branches from the anterior columns bestow upon it the faculty of relaxation.—(*Experimenta Physiologica impedullam Spinalem. Lecta die* 13 *Junii*, 1824. From *Memorie della Reale Accademia delle Scienze Di Torino XXX. Turin*, 1826. *Analyzed in the Journal des Progrès des Sciences, &c. Tome I, p.* 125. *Paris*, 1827).

The result of the experiments of this learned but fanciful author, is by no means conclusive upon the point in question. Many important objections could be urged against his experiments; and the invalidity too, of his deductions could be easily demonstrated, but this is not the proper place to do it.

The fibres of the sphinctores ani muscles may be stimulated to action directly by the will; or indirectly by *reflex irritation*, the one action being voluntary and the other involuntary. The philosophy of reflex action in its relations to nervous phenomena is at the present time attracting great attention. To know that all morbid manifestations may be due to reflex influence is of the highest importance. This theory, when applied to the disease in question, appears indeed most highly probable, for it would seem reasonable enough that any irritable or painful condition of that part of the mucous membrane of the rectum, or muco-cutaneous coat about the anal orifice, within the immediate grasp of the anal sphincters, would, through the medium of reflex action, highly increase the intensity of the nervous influence which causes or stimulates this spasmodic contraction.

It is stated by Mr. W. P. Alison that when any stimulus is applied to muscular fibres, either directly by the will, or indirectly by reflex irritation, the filaments which are directly stimulated are thrown into action, then contractions very

generally and rapidly extend to many others in their vicinity, frequently to the whole muscle of which they form a part. But he considers the contractions of individual fibres to be feeble and of short duration.—(*Cyclopædia of Anatomy and Physiology. By R. B. Todd, M.D. Vol. I., p.* 719. *London.* 1836.)

4. *Nervous Endowment of the Rectum.* The rectum is the only portion of the intestinal canal which receives additional nerves from the cerebro-spinal system; consequently it is endowed with much greater sensibility, and subjected to a much greater number of influences, both healthy and morbid, than any other portions of the canal;—hence its functions too are of a mixed character, partaking, in part, both of voluntary and involuntary motion. Were the rectum not thus suitably endowed with nerves like telegraphic wires, to put it in relation, or in communication with other organs, and enable it to receive and to respond to impressions made upon it, the organ would fail to fulfil its offices as such. But, as before remarked, the rectum, in addition to the organic sensibility with which it is endowed in common with all parts of the intestinal canal, by nerves from the ganglionic system, is also endowed with animal sensibility, by nerves from the cerebro-spinal system, the peculiar property of which is that kind of sensibility which we can plainly perceive and of which we are distinctly conscious.

5. *Hypertrophy of the External Sphincter Ani.* The repeated and long-continued hyperaction of this muscle, consequent upon anal fissure, or from any other cause, ultimately tends to augment both its bulk and its strength, as well as it facilitates its subsequent excitation of action. This is in conformity with the general law, that the repeated exertion of living contractile parts is to increase them in size and in strength, which is doubtless owing to a greater flow of blood to them, and consequently with an increase of their nutrition. If the finger is introduced within the anus in such a

case, the external sphincter, in particular, will be found so much altered in respect to size, that it will have more the feel of a thick cartilaginous ring than a band of soft fleshy fibres, and that this sometimes extends as far as the upper margin of the internal sphincter of the anus, several instances of which have come under my own observation, the result of long-continued anal fissure.

This hypertrophy of the sphincters of the anus, purely the result of continued irritation or violent action, is strikingly evident in those who have for a length of time suffered from this affection, It is interesting in a physiologico-pathological point of view.

CHAPTER THIRD.

ÆTIOLOGY.

CHAPTER III.

ÆTIOLOGY.

1. *Constipation as a Cause of Anal Fissure.* I have already shown in the first chapter that the ancients attributed fissures of the rectum and anus principally to constipation of the bowels, and to the desiccated condition of the stercoraceous matters incident to such constipated state. Albucasis and Paulus Ægineta especially impute them to these causes. It will be very readily perceived how constipation of the bowels, with its train of attending evils,—induration of the fæces and the violent action of the expulsive muscles requisite for their evacuation,—may be causes of anal fissure. Fæcal matter in its natural state is consistent, soft, homogeneous and cohesive, but when unduly retained in the rectum, or colon, becomes hard, knotty, dry and friable, changes produced by the absorption of its fluids; even in its normal condition, when retained but a short time beyond the usual period, it irritates the delicate mucous surface more or less; yet how much more irritating must it prove when its characters have become entirely altered by a lengthened stay in the bowels. It is an established fact that the absorbents of the rectum are very active; consequently if fæcal matter be retained in it beyond the usual period—twenty-four hours—it becomes consolidated and hard. For example, if a person who is in the habit of evacuating his bowels at a certain hour every morning,

should, through the press of anxiety or business, or from any other cause, neglect to perform this highly important act, he will find that the stool which would have been natural and easy in the morning, will be difficult if not painful in the evening or next morning; that the fæces will be hard and moulded in the bowel, and that the act of defecation will be attended with extra straining and with more or less pain, and often with blood. Should he suffer this condition to continue, anal fissure, or some other serious disease of the rectum or anus, would most assuredly be the consequence. In many cases of constipation the difficulty occurs in the rectum, or colon itself, which in such cases seems to have lost its natural tone and action, suffering large accumulations of fæces to take place in its pouch, without manifesting any disposition or power to dislodge them; and when finally expelled, to produce serious injury to the mucous membrane of the anal canal below, and often cause pains equal in severity to those of labor. Women are especially liable to this torpor and to these accumulations. In some cases of constipation, while the diaphragm and other abdominal muscles act with great energy, the anal sphincters remain more or less contracted, and yield but slowly and reluctantly, so that the indurated fæces contuse and abrade the surface of one or more points of the mucous membrane, which if they do not heal become converted into fissures. In such instances as contemplated above, the hard scybalous fæces being forced through the sphincters of the anus by the abdominal muscles, not only irritate or abrade the mucous membrane of the anal canal, but sometimes lacerate it, and thus directly lay the foundation of the disease in question.

This disease is sometimes the result of inflammation and the attendant turgescence of the mucous membrane of the anal canal, by which the intestine becomes narrowed by the tumefaction of its lining coat, and thus forms an obstacle to

the free egress of the fæcal mass, which, if hard, is liable to abrade, lacerate, or rupture the mucous coat, in its highly delicate and friable condition.

Anal fissure sometimes results from the excoriations produced by the vitiated and irritating discharges in dysentery, diarrhœa, cholera, and other visceral diseases.

The anus is liable to a species of chapping, resembling that of the lips in winter, which sometimes results in extremely painful fissures.

Obstinate fissures are sometimes produced in the fossa, between the two anal sphincters, by the lodgment of fæcal matter or other foreign bodies, which here do not always find a ready and easy passage out, in consequence sometimes of the contraction, either spasmodic or organic, of the external sphincter ani. More or less of such foreign matters constantly remaining in this pent up situation, become highly irritating in the intervals between the stools, and in this manner lay the foundation of some among the most painful fissures; a number of such cases have come under my own observation, and will be reported hereafter under the proper head.

Anal fissure is sometimes produced by a superficial excoriation or ulceration of the anus, similar to that so frequently observed upon the inside of the lips, the tongue, and other parts of the mouth. I have seen several severe cases of anal fissure produced by this kind of *aphthous ulceration* in nursing mothers, and one in a young child; they were attended with extreme burning pain, and more or less anal spasm. [Vide Cases XIX., XXIII., XXV.] In these cases the ulcerations of the anus were extemporaneous with similar ones of the mouth; their coexistence at the same time, and the exact similarity of appearance between them, left but little doubt as to their identity.

2. *Severe Straining Efforts a Cause of Anal Fissure.* This disease is sometimes caused by the violent straining efforts,

consequent not only upon obstinate constipation, but upon those of dysentery, diarrhœa, stricture of the rectum or anus, whether spasmodic or permanent, and stone in the bladder. A laceration or rent of the mucous membrane lining the external sphincter takes place during such efforts. Such a rent being neglected, or suffered to continue without proper treatment, would sooner or later become highly irritable, and ultimately produce that peculiar morbid condition of the parts which is characteristic of fissure of the anus. Several instances of anal fissure caused by the severe straining efforts consequent upon the violent operation of drastic purgatives, have come under my own immediate observation. Some of these cases will be found reported under the head, "*Illustrative Cases*," in the last chapter.

A somewhat frequent cause of anal fissure is a deficiency in the secretion of the natural lubricants—the mucous and other secretions of the inferior extremity of the rectum, and about the anal orifice, which were intended by nature to facilitate the passage of the excrement through the anal canal and anus. When this condition of the parts obtains, the mucous lining is often found quite friable, and consequently easily ruptured during the passage of indurated fæces.

3. *Anal Fissure from Mechanical Injuries.* Under this head may be included those abrasions and lacerations which are produced by over-distention, or by the passage of hardened fæces in large masses, as before remarked; or of a foreign body contained in the fæces, as well as those which follow surgical operations, and the careless and awkward use of the pipe of the enema syringe, the speculum ani, the rectal sound, or bougie. The disease is also sometimes the result of mechanical injury consequent upon very violent efforts made in parturition; several cases of this character I have treated. It is sometimes the result of external violence communicated by falls, blows, &c., upon the anus, the nates, or the coccyx. A case of this kind came under my

own care. [Vide Case XVI.] Two similar cases are reported by Mr. Rouse, as follows:—

"Case I.—A gentleman, aged twenty-four, was riding a restive horse, when it suddenly bolted. He was thrown with some violence on the hind part of the saddle before he recovered his seat. He felt some pain about the anus at the time, and on changing his shirt he noticed a few drops of blood. For the next few days he experienced a slight burning pain during the evacuation of the bowels, and in about a week the characteristic pain of fissure was established. On examination being made, a small crack was perceived on the posterior surface of the sphincter; it commenced about two lines within the anus, and extended upwards for about an inch. Various local means were tried without benefit, and an operation to be hereafter described was had recourse to with perfect success.

"Case II.—A captain in the navy fell off a ladder, and came to the ground on his buttocks with considerable force. He did not observe any particular pain until he went to stool the following morning, when he experienced considerable smarting, and noticed that he had passed a small amount of florid blood. About a week after the accident he applied for advice. He then, after every evacuation of the bowels, had pain which lasted for several hours. On examination, an ulcer was found on the posterior surface of the lining membrane of the sphincter; the edges were not indurated, and the surface was florid. An ointment containg mercury was applied twice a day, and in the course of a week a cure was effected."—(*On Ulceration of the Lower Extremity of the Rectum; its Varieties, Diagnosis, and Treatment. British Medical Journal. May 12th*, 1860, *p.* 356.)

4. *Anal Contraction as a Cause of Anal Fissure.* Contraction of the anus or anal canal, either of an organic or of a spasmodic character, by opposing the free egress of the fæces, becomes a proeguminal cause of anal fissure; in the

former by disposing to rupture, and in the latter by contusion, excoriation, and abrasion of the mucous membrane. Congenital contraction of the anus may lay the foundation of this disease.—(*Vide the author's work on the Congenital Malformations of the Rectum and Anus, p.* 85. *New York*, 1860.)

Persons who have very large and extensive anal sphincters, or very strong and powerful ones, are very liable to this affection, or predisposed to it.

5. *Anal Fissure from the Frequent use of Enemata.* Some authorities are of opinion that it is in consequence of the frequent and indiscriminate use of lavements, so very common on the continent of Europe, that anal fissure prevails so generally in that part of the country; whilst in England and in the United States, where they are but seldom used, the disease is comparatively rare. The use of enemata, however, is daily on the increase in our own country, and so is anal fissure; but I doubt whether this increased use of the former has anything whatever to do with this increase of the latter.

6. *Anal Fissure from Hæmorrhoids and Condylomata.* A very frequent predisposing cause and complication of this disease are hæmorrhoidal tumors; and when this is the case, the fissure will often be found between two of them. (Fig. 1.) Hæmorrhoids, by their presence in the anal canal, lessen its calibre, and in the act of defecation are first extruded and then separated, during which process the delicate mucous lining is, by the forcible passage of hardened fæces, ruptured. Condylomata, or excrescences of the anus, the result of chronic inflammation or irritation, are quite a frequent cause of anal fissure. They produce the disease by narrowing the anal orifice, becoming ulcerated at their base, and by the constant irritation they excite in the parts. I would observe here that these condylomata or anal excrescences are at the present day too often confounded with true hæmor-

rhoids. This is an error that needs correction, for they are not of a hæmorrhoidal character. I have most always found anal fissure complicated with condylomata, having seen but few cases that were not accompanied by one or more of them.

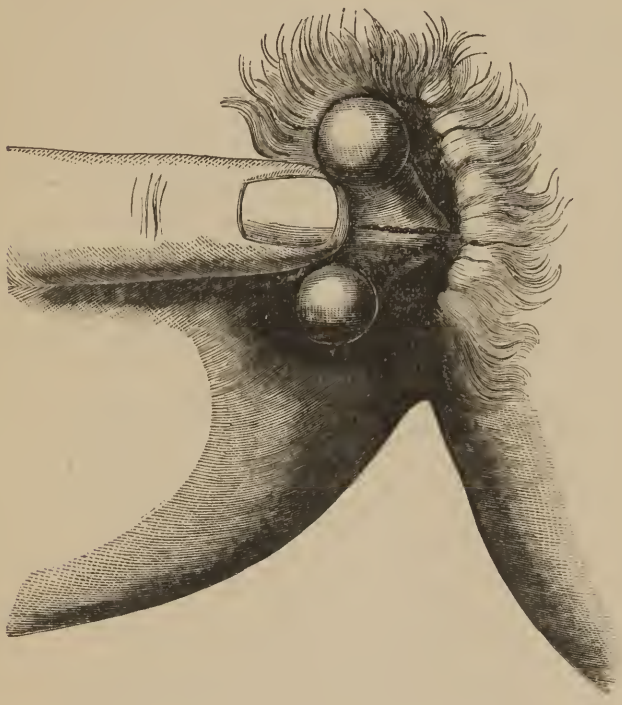

Fig. 1.

7. *Anal Fissure from Cutaneous Affections.* Fissure of the anus is not unfrequently the result of a local variety of one or the other of the following cutaneous diseases:—*Prurigo*, *Eczema*, *Psoriasis*, and *Herpes*. A thickening of the mucous membrane and muco-cutaneous coat of the terminal portion of the rectum takes place in one or the other of those affections, causing deep cracks or fissures, and exciting vitiated and acrid discharges, so that ultimately, if not relieved early, that morbid condition of the part takes place which is characteristic of anal fissure.

8. *Venereal Origin of Anal Fissure.* This disease may arise from the direct application of the venereal poison to the margin of the anus, as in "*Unnatural Congress;*" or a flow of it may take place from the genital organs to the anus. Females especially are very obnoxious to it from the circumstance that the vaginal discharges can so readily flow over parts of the anus. Or syphilitic fissure of the anus may be consecutive to disease in the genital organs, and then coexist with other secondary symptoms.

9. *Can Anal Fissure be produced Artificially?* M. Velpeau is of opinion that this disease cannot be produced artificially. This, however, is an error, for I myself have witnessed several cases to the contrary. In the removal of hæmorrhoidal tumors by the application of the nitric acid, or the fluid acid nitrate of mercury, if not very careful, sometimes a drop, or even less, may come in contact with the mucous membrane lining the external sphincter, and produce a small superficial ulcer, which in some instances becomes afterwards highly sensitive and irritable, and causes similar suffering precisely to that of anal fissure, and indeed constitutes this veritable disease. [Vide Case xv.] The same disease sometimes follows the excision of hæmorrhoidal tumors, either by the knife or the ligature, when a small ulcer is left from the operation, as I have on several occasions witnessed. [Vide Case xxvi.] Mr. Curling names one or two cases precisely of this nature. "One of the most painful ulcers," says Mr. Curling, "I have had to treat occurred, I was informed, after the excision of a small pile. In another case in which I removed a large pile by ligature, the patient, a gentleman, neglected my injunction to keep at rest afterwards. He returned too soon to active business, and an irritable sore was the consequence. I have also met with one which occurred after the removal of an internal pile by the acid nitrate of mercury in a lady of irritable constitution."—(*Op. cit., p.* 8.)

10. *Are the Causes of Anal Fissure obscure?* M. Boyer says that the causes of this disease are very obscure; that he had observed among many of the patients he treated, it had been preceded by a hæmorrhoidal swelling; and that among some of these cases hæmorrhoids had been of long standing. Now, in my opinion, the causes of anal fissure, as a general rule, are not obscure, as I have abundantly shown; take for example hæmorrhoids as a cause. I am therefore surprised that M. Boyer, with his extensive knowledge and experience on the subject, should have made such an assertion. The truth is that all superficial lesions, especially those of a linear shape, located on the mucous membrane lining both sphincters of the anus, are liable sooner or later of becoming so sensitive and irritable, from some of the numerous causes already enumerated, as to produce that morbid state of the parts which I term *anal fissure*, which is nothing more nor less than a highly sensitive and irritable ulcer, located in the inferior extremity of the rectum, and sometimes communicating its irritability to one or both sphincters of the anus, inducing in one or both spasmodic contraction of their muscular fibres.

I will admit that the disease, in many instances, is so gradually developed, that it is difficult to assign it to its true and legitimate cause. Instances will sometimes be met with in which we will not be able to discover any probable or assignable cause.

I would here remark in conclusion, that many of the causes of anal fissure which I have enumerated, it is true, produce other abrasions, excoriations, or ulcerations about the orifice and canal of the anus, which cannot for obvious reasons be termed *anal fissure;* consequently care must be taken not to confound diseases alike in their cause and appearance, yet very different in their symptoms and in their treatment.

11. *Who are the most Obnoxious to Anal Fissure?* It may be

said, so far as temperaments are concerned, that the nervous, bilious, and the leucophlegmatic, are peculiarly susceptible of diseases of the mucous membrane of the rectum. Anal fissure is an affection that does not seem confined to any period of life, but it rarely exists until after puberty. It most commonly occurs between the ages of eighteen and fifty; but I will presently show, contrary to the opinion of MM. Boyer, Velpeau, and some other eminent surgeons, that children are sometimes the subjects of it. I have myself observed several marked and unmistakable cases in my own practice. [Vide Cases v., x., xix.] According to the experience of M. Trousseau at the Hospital Neckar in Paris, infants, even during suckling, are liable to this most distressing affection as well as adults. M. Duclos reports two highly interesting cases which came under the immediate practice of M. Trousseau. These cases will be found reported in full in the chapter on the *Treatment of Anal Fissure.*

Mr. Miller says that fissure of the anus has been observed in children at the breast.—(*Practice of Surgery, p.* 380. *Edinburgh*, 1852.)

"Children, as we have observed," says M. Blandin, "and as it is clear, are not exempt from anal fissure, especially that form of it which is caused by a venereal taint; and that which is caused by blows or other violence exercised upon the anus."—(*Loc. cit.*)

This disease is met with in children whose constitution is feeble, and who have derangement of the digestive functions, and who either suffer from obstinate constipation of the bowels, or who have frequent diarrhœa; and in those who without the influence of these circumstances are badly cared for, and imperfectly attended to. The disease in children, as in adults, is caused by the straining efforts resulting from constipation of the bowels, and producing a superficial rent of the mucous membrane which lines the

sphincter ani; and in diarrhœa from the irritation and erythema of the anus which attend that disease. It sometimes occurs in children who are suffering from aphthæ.

The disease in its worst form, or spasmodic stage, does not as a general rule affect very aged persons, for in them the contractile power of the sphincters of the anus is generally, to a greater or less degree, diminished.

It is an affection common to both sexes, but women are certainly the most obnoxious to it, especially those who have borne children; and often occurring in nursing mothers who are subject to aphthæ. The principal causes in females, however, are doubtless a want of proper exercise and obstinate constipation of the bowels; the first a predisposing and the last an exciting cause. Women, both from habit as well as from the usages of society, are sedentary, and in them constipation of the bowels generally prevails, caused in part by habitually neglecting the calls of nature, which they can with greater impunity do than men, in consequence of the greater amplitude of the pelvic cavity, but which sooner or later lays the foundation of the most serious mischief to some one or more of the important viscera of this cavity.

Men of literary pursuits, or those closely engaged in study, as students; or employed at the desk or counter, as clerks, accountants, and salesmen; or those confined to seats, as tailors, shoemakers, &c., are all liable to suffer from confined bowels. The want of bodily exercise generally lessens the demand for food, weakens the digestive organs, and indigestion and constipation are almost a necessary consequence.

CHAPTER FOURTH.

CLASSIFICATION AND DESCRIPTION OF ANAL FISSURE.

CHAPTER IV.

CLASSIFICATION AND DESCRIPTION OF ANAL FISSURE.

SECTION I.—THE SEAT, AND THE ANATOMICAL AND PATHOLOGICAL CHARACTERS OF ANAL FISSURE.

1. *Seat.* To a superficial observer it might seem superfluous to speak of the seat of anal fissure, since the term itself implies the locality of the disease, and to such it might also seem of no importance to distinguish and to describe it in accordance with its position. It will be perceived, however, that it is important that the exact locality of the fissure should be pointed out, not only for the purpose of showing the great difference in the ulcer arising from its position within and without the anal orifice, but also to prevent confounding affections essentially alike in cause, but entirely different in nature and in symptoms, and requiring different modifications of treatment. Some authorities attach no therapeutical value whatever to such distinction. MM. Blandin and Dupuytren, however, acknowledge the importance of it. M. Blandin himself divides anal fissures into three divisions, as follows:—

"1. Les fissures inférieures au sphincter.

"2. Les fissures supérieures au sphincter de l'anus.

"3. Les fissures à l'anus qui sont placées au niveau du sphincter."—(*Op. cit.*)

2. *Classification.* I will, for the better elucidation of the subject, point out the different localities, in the inferior extremity of the rectum, which fissures are found to occupy, as well as describe the different character they assume in each of such positions. They may therefore be distinguish-

ed into four classes, according to their locality; believing this to be both a natural and a useful distinction.

First Class. These are the fissures that are situated on the outside of the anal orifice, and immediately beyond the grasp of the external sphincter ani, and affect only the integument, or the muco-cutaneous tissue. They often scarcely exceed four or five lines in length, and occupy the grooves between the duplicatures of the fine and delicate skin about the verge of the anus, and may be readily seen by separating those folds. They sometimes appear in the form of excoriations or abrasions, consisting merely in the removal of the epithelium; or in the form of narrow chaps, or oval or circular ulcers, having a red, but more frequently a yellow or ash-colored base. They frequently penetrate through the epidermis, rete mucosum, and sometimes through the true skin, and are often attended by a slight oozing of a sub-acid discharge, and are very similar in appearance to those fissures or cracks that occur on the lips and angles of the mouth in some persons affected with herpetic complaints. The fissures of this locality, as a general rule, do not affect the external sphincter, so as to induce spasmodic contraction of that muscle, not being immediately within its grasp. Cases, however, of fissures in this locality do sometimes occur in which there will be violent spasmodic contraction of the external sphincter. Several such cases have fallen under my own observation.

The fissures of this locality are always, however, attended with more or less intense smarting and burning pain, either while at stool, or some time afterward, and only occasionally by sympathetic spasm of the anus; consequently they are justly entitled to the appellation, *anal fissure*, or *exquisitely irritable ulcers of the anus*. It must be distinctly understood, however, that many of the abrasions, excoriations, and superficial ulcers of this region, produce nothing but an irritation or soreness of the parts like that caused by a common

sore, or like that caused by chafing or galling. Any and all such deserve not the appellation, *fissure of the anus.*

Second Class. The fissures which belong to this class are situated immediately within the anal orifice, and affect the mucous membrane lining the sphincter externus, and are situated opposite to or on a level with this muscle. They are considered by some of the most able authorities to be the only true and genuine fissures. In these cases the inferior extremity of the fissure may be brought in sight and examined, by causing the patient to make expulsive efforts as if at stool; or by forcibly divaricating the nates and the anal orifice with the hands and fingers, when the lower end of the ulcer will be exposed to view. In order, however, to obtain a complete view of the whole fissure, the anal speculum must be used, which, by rendering the mucous membrane tense, a vivid red line with a sharply defined edge, or a very narrow slit with redden margins will be observed. This fissure is more frequently found at the posterior part of the anal canal, or posterior surface of the sphincter ani, than at any other locality; less frequently on the sides, and still less at the anterior part of the anal canal, or perinæal surface of the sphincter. About two-thirds of the cases I have treated, I have found the fissure situated on the posterior surface of the external sphincter. The next point in frequency, so far as my experience goes, is on the sides of the anal canal. I do not think I have treated twenty cases in which the fissure was situated on the perinæal surface of the sphincter muscle. The position of the fissure, however, varies considerably, so does also the degree of the morbid alteration. It most generally begins about a line above the margin of the anus, and prolongs itself in a vertical direction, following one or the other of the furrows between the folds or columns of the mucous lining of the anal canal; and varying in length from the third of an inch to one inch and a third. It is rare that more than one

fissure exists at the same time; yet I have seen as many as three and four very small ones existing simultaneously. In some instances, in the early stage of the disease, one or two bright red granulations sometimes sprout up in the fissure, and give rise to more or less hæmorrhage at each evacuation of the bowels. If the disease is suffered to go on without any active treatment, the appearance of the fissure soon changes. When recent, its edges are soft and pliant, and but little raised; but in the exact ratio in which the ulcer becomes chronic from long continuance, its edges become hard and elevated, or everted, changes which depend upon the interstitial deposition of adventitious matter from the inflamed capillaries. The surface of the ulcer itself looks pale, like any other indolent sore, and from which there is a little secretion, and sometimes at stool a little blood and mucus are passed. The mucous membrane surrounding the fissure also undergoes changes; for a while at first it retains its natural color, but when the disease is of long standing it often presents an erysipelatous hue; and then again it assumes a livid aspect, and becomes soft.

This solution of continuity never extends in depth further than to the muscular tissue. In the majority of cases it does not even extend through the mucous membrane; but cases do occur in which the ulceration not only extends through the mucous, but also through the submucous cellular tissue which unites the mucous to the muscular coat. M. Merat, if I understand him, intimates that it sometimes does attack the muscular tissue. He says:—"Le tissu affecté est la membrane muqueuse, mais il n'est pas rare que l'ulcération dépasse son niveau, et gagne la portion musculaire de l'intestin."—(*Dictionnaire des Sciences Médicales. Tome XV. Art. Fissure, p.* 544. *Paris*, 1816.) MM. Dupuytren and Blandin both declare that the ulcer rarely ever extends even through the mucous membrane. M. Dupuytren says:—"Cette ulcération n'atteint que très-

rarement toute l'épaisseur de la membrane muqueuse."—(*Op. cit. p.* 151.) M. Blandin says:—"Cette ulcération n'atteint que rarement toute l'épaisseur de la membrane muqueuse."—(*Op. cit. p.* 156.)

I have seen two cases in which the ulceration had extended itself completely through the mucous and submucous cellular tissue to the muscular coat. Mr. Curling relates a case in which he could distinctly perceive the fibres of the sphincter ani forming the bottom of the ulcer.—(*Op. cit. p.* 11.) I have never seen the record of any case in which the fissure is said to have completely invaded the muscular coat.

The fissures of this class are, as a general rule, the most painful and the most serious of any others met with. They are most always attended with sympathetic spasmodic contraction of one or both anal sphincters; and even when unattended by violent anal spasm, they are of the most exquisitely painful nature.

Third Class. The ulcers or fissures of this class are situated above the sphincter externus, in the middle region of the anal canal, in the small space or fossa which exists there, between the two sphincters. They can only be seen by the use of the speculum ani; but may easily be detected by the finger *in ano*. These fissures are generally of an oblong or circular form, and are but seldom linear (Fig. 2); they vary in size from a half split pea to that of a silver dime, or to the end of the index finger. In cases of long standing the edges of the ulcer are indurated, but the centre generally remains soft and of a grayish or bright red color, and from which a little purulent or sanio-purulent matter passes at each evacuation of the bowels. These ulcers, according to my experience, are generally situated on the lateral parts of the canal, and but seldom on the posterior or anterior parts. On a digital examination the sensation which the ulcer communicates to the finger is that of an ex-

cavation. This fissure, as a general rule, does not induce sympathetic spasmodic contraction of the anal sphincters; indeed anal spasm does but seldom accompany it, but as the ulcer is touched or pressed upon by the finger, the muscle instantly grasps it firmly. The pain of this kind of fissure

Fig. 2.

is most intensely sharp and burning, commencing either while at stool or a short time after, and continuing for several hours, often amounting almost to agony, whether being attended by anal spasm or not. In consequence of the ab-

sence generally of spasmodic contraction of the anal sphincters, an examination may be made, as well as the treatment carried out with but little suffering to the patient, obviating thereby the necessity generally of the use of anæsthetics; indeed the external sphincter, instead of being in a state of spasm, is often found quite relaxed. It is in this locality that the *excavated* ulcer of the late and eminent Mr. Colles is situated, and which he has described in the *Dublin Hospital Reports. Vol. V. p.* 155. *Dublin*, 1830. Several cases of this peculiar species of fissure, or obstinate ulcer between the sphincters, have come under my own observation. [Vide Cases VIII., IX., XXIX.] An ulcer not in the form of fissure, but oval or circular, and attended with all the usual characteristics of fissure, is mentioned by Sir. Benj. Brodie in a lecture on the diseases of the rectum, in the *London Medical and Surgical Journal*, *Vol. V. p.* 286. *London*, 1834. I rather incline to the opinion that the ulcer of Mr. Colles and that of Sir Benj. Brodie are identical. Mr. Quain also mentions the same kind of ulcer.—(*Op. cit. p.* 162, *case* 53.)

The ulcer mentioned and described by Mr. Colles is generally situated in the fossa between the two anal sphincters; it is sometimes, however, situated a little higher up or lower down, and on a level with one or the other of the sphincters. The form of the ulcer, instead of being linear as in the second class, is generally oblong or circular. It is excavated, having raised edges and a deep soft bottom, of a grayish appearance, and attended by a considerable purulent discharge. This kind of fissure is generally accompanied by enlargement of the hæmorrhoidal veins; or by a considerable tumefaction about the verge of the anus.

Fourth Class. These are the fissures which are situated on the mucous membrane lining the sphincter internus, and a short distance above this muscle. They can only be seen by the use of the speculum ani. These fissures are somewhat rare, or

perhaps are overlooked. (Fig. 3.) They do not produce the extreme suffering which those of the second and third class do. The pain is not so sharp and burning, but more of a dull, heavy ache or bearing down, and lasts for several hours after an evacuation of the bowels. It is sometimes attended with spasmodic contraction of one or both of the sphincters of the anus, but this is not frequent. Ulcers in this situa-

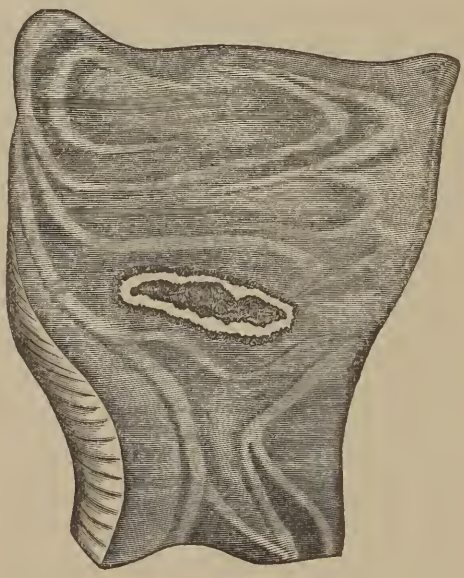

Fig. 3.

tion cause considerable sympathetic irritation at the neck of the bladder, there being often a constant desire to pass urine with but little ability to do so, which is sometimes very troublesome, and a serious addition to the other sufferings of the patient. I have treated two cases of this kind.

A fissure in this locality is sometimes most difficult to detect.

Section II.—The Symptoms and Signs of Anal Fissure.

The evidences of this disease are of two kinds,—namely, those which have reference to the disturbance of the parts both immediately and remotely concerned, being manifested by numerous and various symptoms; and those which relate to the appearance of the parts directly involved.

The most striking feature in the nature of anal fissure is the great disproportion which exists between the extent of the solution of continuity, and the intense suffering it occasions. Indeed the very great distress which is experienced, and the nervous anxiety which is often manifested, even by firm-minded persons, are surprising when the insignificant amount of the local malady is taken into consideration.

1. *Symptoms.* The characteristic or essential symptoms of anal fissure, are a severe smarting or burning pain in the anus or anal canal, occurring during the act of defecation, or a short time after, attended sometimes with a sympathetic spasmodic contraction of one or both sphincters of the anus. The exacerbation of pain does not precede the evacuation, as it generally does in inflammatory affections of the anus, but most commonly follows, after an interval of a few minutes.

The symptoms of this disease at its inception are not very severe, being for a longer or shorter period merely an uneasy sensation, consisting of an itching, pricking, slight smarting, or feeling of heat in a certain point in the circumference of the anus, and occurring only during the evacuation of the bowels, and for a few minutes after. As the disease advances this uneasy sensation gradually increases, and sooner or later gives place to a most severe burning, lancinating, or throbbing pain. The sensation of burning at the time of stooling sometimes exists to such a degree that it produces the most inconceivable anguish, but which in

some instances is almost entirely relieved on the completion of the act of defecation; whilst in others it is only to be renewed soon afterwards, with, if possible, greater violence. The pain occupies a circumscribed space about the margin of the anus, and is often attended, when very severe, by a pulsation of the vessels similar to that which generally accompanies phlegmonous inflammation. The attack of local pain being at an end the patient feels perfectly well, and apparently would continue so, were it not for the disturbing or the distressing effect of the passage of the fæcal matter again. In consequence of this, some patients manage to curtail the number of their evacuations, and others reduce the quantity of food to a very small amount for the same purpose, and to avoid increasing the fæcal mass, or having large evacuations, being well aware that such cause additional suffering. According to my observation the largest proportion of patients, however, suffer none at all whilst evacuating their bowels; or if they do suffer, it is so trifling as not to attract their serious attention; but in the course of ten, twenty, or thirty minutes, or one or two hours after the evacuation, they experience the most intense smarting, burning, or lancinating pains, which are often accompanied with violent spasmodic contraction of one or both anal sphincters. The degree of contraction, however, is by no means in proportion to the amount of suffering. As the disease progresses the pain, if possible, becomes daily more aggravated after each evacuation, often conveying to the patient the sensation of scalding, or of a red-hot iron being thrust into the anus, and gradually increasing in intensity until it has arrived at its maximum, when the patient suffers the most excruciating torture, sometimes bringing on a feeling of syncope, or a threatening of convulsions. These sufferings continue unmitigated for a length of time, varying in different cases from two to twelve hours, or even longer, when they either gradually or suddenly abate and

leave the patient in perfect ease, as it were, until a renewal of the necessity for the passage of fæces causes a return of the sufferings, the interim being spent by the patient "in that delicious calm," says Mr. Calvert, "which usually follows violent suffering, and which may be termed, not inaptly, the very luxury of sensation."—(*Op. cit. p.* 213.)

In some few instances, provided the patients have a daily evacuation, the pain lasts from one stool to another, requiring them to maintain the recumbent posture almost all the time. Others who daily evacuate their bowels, do so just on retiring to bed, as the horizontal posture affords relief generally, and they wish to be enabled on the morrow to attend to business during the day. Some, however, cannot maintain the horizontal posture without the most terrible suffering, being compelled to sleep in a sitting posture, on a hard seat. A remarkable case of this kind came under my own observation. [Vide Case xx.] Some patients are enabled to walk about, sit down, or attend to their business during the interval between the attacks, but others again are compelled to keep their beds. If the disease is not promptly arrested by treatment, it will progress. The pains will become continuous, and much more easily excited, especially in irritable habits or constitutions, when they may be produced by the slightest causes—such as any sudden movement of the body, as walking, coughing, sneezing, blowing the nose, singing, loud speaking, urinating, strong passions of the mind; or any cause whatever that produces local or general excitement.

Flatulence is a symptom that generally attends severe cases of anal fissure, and it is very troublesome, as well as painful, the disengagement of gas being almost certain to bring on a paroxysm of pain; and when it is impossible to pass it, as is sometimes the case on account of anal spasm, it is a source of great discomfort and annoyance, by producing a continuous kind of colic, and a bearing-down feeling. I do not

think I ever saw a severe case in which there was not more or less flatus present. M. Boyer mentions the case of a lady, one of his patients, who was tormented with a continued desire and impossibility of passing flatus. She was compelled to wear continually an elastic canula in her bowel, so as to let out the gas whenever it reached the tube *in ano*. I have frequently adopted the same expedient, to the very great comfort of the patient, in cases in which there was violent spasm of the anus.

Any excess in eating or in drinking will aggravate the pains. In women the presence of the catamenia increases their suffering. The pain is always at once excited by the introduction into the anus of any foreign body,—such as the pipe of the enema syringe, &c., and if the attempt be made to pass up the finger, it will not only occasion more or less suffering, but the finger will be grasped powerfully by the sphincter muscle. In some cases lancinating pains extend to the bladder in the male, and to the uterus in the female, and in both sexes to the hypogastric region. In occasional cases of anal fissure the pain assumes a periodical character, depending upon some peculiar state of the constitution.

In this disease, as before observed, the bowels become obstinately constipated, and in some instances evacuation takes place only once in every eight or ten days, unless purgatives or enemata are employed. Indeed the very nature of the disease leads to constipation. Such is the dread of having a stool that most patients postpone the act of defecation as long as possible, some for two, three, four and even eight days, during which they are generally comparatively free from pain and nearly all expression of suffering subsides. So complete is the manifestation of health, that it would astonish a person ignorant of the nature of the disease, to be assured that as soon as defecation takes place the disease in all its violence would be renewed The affection is neither

retarded nor diminished in the least by this suspension of defecation, but on the contrary its progress is unremitting; and both the violence of the spasmodic contraction and the severity of the pain are, as it were, regenerated with an increase of intensity, proportioned to the duration of time during which they had been suspended by the absence of defecation. The additional suffering caused by the suspension of defecation may be explained by the fact that an accumulation of fæces taking place for several days in the bowel, becomes exceedingly hard, dry, and irritating; and when at length the rectum contracts to expel this indurated mass, its passage tears open afresh the fissure, and contuses, excoriates, and irritates the whole anal canal,—hence the anal sphincters, being highly stimulated and irritated by this increased pain, contract spasmodically; and in this manner a contention is set up between the anal sphincters on the one part and the muscular walls of the intestine on the other, aided by the abdominal muscles. In some of these cases the efforts to evacuate the bowels are so violent and so prolonged, that respiration is sometimes suspended; the face becomes injected and purple, and the blood appears ready to start through the skin. Patients for a long time, even after they have been cured of this disease, have a dread or a horror of stooling.

In the severe cases, the patients, as a general rule, seem at a loss to find words sufficiently expressive to depict their sufferings, and they always speak of them in the superlative degree. They will compare the pain to that occasioned by a red-hot iron thrust into the bowel; or by scalding water or molten lead thrown into the intestine; or to a sharp knife run into the anus; or to tearing or lacerating the margin of the anus. Females will often tell us that the pain is more severe and more intolerable than the pains of labor. The pain and suffering often give rise to loud expressions of agony, even in some of the most determined and resolute.

When this disease is severe and of long duration, the patients sometimes fall into a remarkable state of melancholy and extreme nervous susceptibility. In order to avoid stooling, they eat but little; their digestion is impaired, and they gradually become emaciated and icteric; their countenance is expressive of pain, and they have the general appearance of those suffering from serious organic disease. Such patients too, although they may have possessed the most happy, the most amiable and most even temper, or disposition, gradually lose it, and become petulent, peevish, crabbed, snappish, and unamiable.

2. *Interval of Time between the act of Defecation and the Accession of the Pain.* A remarkable circumstance in the nature of this singular disease, is the distinct lapse of time which takes place between the cessation of the act of defecation and the accession of the pain, in all those who suffer most after this act. There is, however, no certainty with regard to the exact time after, when the pain will come on. It may come on immediately after the excretion of the fæces, ten minutes after, half an hour, one or two hours, or even four hours after, according to some authorities. The circumstance of this distinct interval of time, whether of longer or of shorter duration, is nevertheless so certain and so uniform in these particular cases that it might be considered as the pathognomonic sign of this disease. "There is one symptom," says Mr. Colles, "that will better explain the nature of this disease, than even an examination through the rectum, and it is so constant and so obvious, that I wonder very much it has escaped writers on the subject,—it is, that there is always a distinct interval of time, from ten minutes to an hour or more, between the passage of the fæces and the occurrence of the pain."—(*Op. cit. p.* 279.) Mr. Quain, when speaking on the same subject, also says: "It is remarkable that in no small proportion of cases, it is only after the lapse of some time from the act of defecation

that the pain begins. The interval that elapses between the evacuation and the occurrence of the pain, varies from about ten minutes to half an hour, or even two hours. I cannot explain at all satisfactorily why an interval of time elapses between the application of the exciting cause and its effect; nor can I account for the variations in its length." —(*Op. cit. p.* 169.)

The distinguished Professor Dr. Van Buren of our city, after quoting what Mr. Quain has said upon this subject, attempts to give an explanation of this phenomenon. He says: "To me it seems plain that the dilatation, to which the orifice of the anus is subjected by the extrusion of the fæces during the act of defecation, is sufficient to prevent the fibres of the sphincter muscle from resuming their full tonic contractility, for a short interval, and that the length of the interval depends entirely upon the size and hardness of the mass extruded, and the amount of stretching to which the orifice has been subjected."—(*The American Medical Times. Vol. VIII. p.* 218. *New York*, 1864.)

In my opinion, the Professor has failed in the above to give a true, a rational, or a satisfactory explanation of this phenomenon. According to his hypothesis, both the interval of time and its length depend entirely upon the size and the solidity of the fæcal mass, and upon the amount of stretching to which the anal orifice has been subjected by such an evacuation. Now a soft or a fluid dejection is fatal to this theory, inasmuch as a fluid stool, for instance, is effected with the very slightest dilatation of the anal orifice, and with no stretching whatever, in the sense in which that word is used in the above; so small indeed is the amount of dilatation which occurs during such an evacuation, that it is scarcely perceptible, consequently the interval following it should be so brief that it should occur in a moment after. But does it do so? Never. A fluid evacuation, effected without a particle of stretching of the anal orifice, neither

obliterates nor shortens the interval, but rather lengthens it. This fact I myself have verified in numerous instances, by noting the exact time when the pain commenced after the patient had passed a large and hard stool; and on the next occasion for stooling, administering an aperient to produce a fluid dejection; and then again observing the exact length of the interval occurring between the completion of the act of defecation and the accession of the pain, and I have generally found but little variation in the length of the interval, the only difference, if any, it being in most cases longer after a fluid than after a large and solid stool; so much so that the patients themselves noticed the difference and began to imagine that they would escape the pain altogether. I have observed the same to occur in cases of anal fissure accompanied by diarrhœa. The pain after a soft or a fluid stool, as a general rule, is not as severe and of as long continuance as after a hard one. Another fact should be taken into consideration in this connection, namely, that no inconsiderable number of patients suffer the greatest if not the only pain during the expulsive nisus, and whilst the anal orifice is being subjected to this very dilating and stretching process of which Dr. Van Buren speaks.

I would also remark here, that, according to Dr. Van Buren, the tonic contraction of the fibres of the sphincter ani muscle is the cause of the pain, for he holds that the pain is suspended until the full tonic contraction takes place. Now the fact is, that the full tonic contraction of this muscle takes place immediately after the evacuation, unless the distention has been so great as to produce paralysis of its muscular fibres; for let any one then explore the anus, either with the finger or with the bougie, and he will find this muscle has already contracted naturally, and assumed its quiescent state. This contraction, in my opinion, does not therefore produce the pain, for this comes on some time after that has taken place. It requires something more than the mere tonic con-

traction of the anal sphincters to bring on the pain. It would be more reasonable to suppose that it was in such cases the hyperaction, or the arbitrary or spasmodic contraction of these muscles that caused the pain.

The question before Mr. Quain was, why should there be in anal fissure, an interval of time between the completion of the act of defecation, the exciting cause, and the accession of the pain, the effect? He answers by saying, that he can give no satisfactory explanation of this circumstance. I also answer in the same language; consequently I will not attempt an explication of it. The truth is, we are ignorant of the cause of this interval, neither can we account for its length, and we better admit, in the present state of our knowledge, that it is organic, and consequently that it depends upon some spontaneous change in the anus or anal canal itself, of which we know nothing.

Mr. Malyn offers a very ingenious explanation of why, in anal spasm, the pain does not occur at the time of the excretion of the fæces; and why it does occur some time afterwards. The question before him was, why should the pain take place *after*, instead of *at* the time of stooling? The following is his explanation of this matter: "The inflammatory congestion of a part (the anus) possessing such strong and numerous sympathies, explains at once the fearful symptoms which attend it. The language of the patient appears to be exaggerated, and when he compares the sensation to that produced by the lodgment of a red-hot iron in the gut, or to the tearing it out with fish-hooks, it may seem strange that such should be the case, more *after* than *at* the time of the expulsion of the fæces. But we must remember that it is only to the most urgent calls of nature that he attends, and that the solid fæces in their descent, a descent accomplished by violent abdominal contraction, stun or blunt the energy of the nerves, and so effect their exit with comparatively little pain. When, however, they

are expelled, reaction takes place, the nerves re-acquire their sensibility, which is for a time exalted proportionally to its previous depression, and, until this state subsides, the paroxysm endures."—(*Op. cit. p.* 339.)

This explanation of Mr. Malyn is no less specious than that of Dr. Van Buren. They both, however, require large and indurated fæces to sustain them; the former to produce the stunning or the blunting of the nervous energy, in order to suspend the pain at the time of stooling, and for some time afterwards; and the latter to produce the stretching of the anal orifice, so that some time must elapse before the full tonic contraction of the stretched muscular fibres can take place, and the pain begin. A fluid evacuation, however, in such a case, followed some time afterwards by the usual pain, is fatal to both hypotheses. Such a stool is effected without any stunning or blunting of the nervous energy whatever,—hence, according to Mr. Malyn, the pain should take place during the defecating act; yet it does not do so, but comes on as usual some time after, and in the same manner as if the nervous energy had been stunned or blunted by the passage of a hard stool.

The anus and anal canal being so much narrower than the rectum just above, the expulsion of fæces through this narrow passage is of course attended with more or less difficulty, in proportion to their size and solidity; sometimes requiring all the power of the sphinctores ani, as well as that of the diaphragm and other abdominal muscles. When the fæces are fluid, the contraction of the muscular fibres of the inferior extremity of the rectum is alone sufficient for their expulsion, without the intervention of the anal sphincters. The gases are more easily expelled than fæcal matter. Like fluid fæces, they can be disengaged by the action of the intestine alone; though the diaphragm and the other abdominal muscles generally co-operate with the intestinal circular fibres in their disengagement.

3. *Symptoms and Signs of Anal Fissure in Infants.* The symptoms of this disease in children differ somewhat from those manifested in the adult. In children or infants the pain occurs only whilst straining efforts are taking place; the pain apparently ceasing in a few minutes after the passage of the fæces, only to reappear on the bowels being again moved. It is universally the case when infants are the subjects of this disease, that their sufferings commence and terminate with the act of defecation. Nothing appears to indicate the slightest pain after the excretion of the fæcal matter. During the expulsive nisus the child manifests the acute pain it suffers by its actions, and by the sharp and piercing cries it utters. The pain appears to begin with the very first effort of defecation, and to be very severe during the passage of the fæces through the anus. When there is considerable constipation, which is sometimes the case in these instances, defecation is more painful, and often attended with violent spasm of the anus; and there is also, at each and every evacuation of the bowels, an escape of several drops of blood, consisting simply in an oozing, or a true *stillicidium ani*, but which immediately ceases on the cessation of the straining efforts. In adults extensive and very painful anal fissures often exist without the slightest hæmorrhage.

The fissure in infants is generally perceptible to the eye when the child is making straining efforts to evacuate the bowels, and the anus is everted; but even in the absence of this ocular demonstration, the seat of the pain, the mode of its manifestation, and the slight hæmorrhage which invariably accompanies each alvine evacuation, would leave but little doubt in the mind of the observer, as to the true nature of the case.

Such are some of the rational symptoms and the signs of anal fissure, both in the adult and in the child, and they are quite sufficient to furnish a tolerable diagnosis. But in this, as in all other affections of the inferior extremity of the

rectum, we must depend mainly upon the actual exploration of the parts, in order to determine its character positively. Such exploration requires considerable tact and dexterity to conduct it successfully.

———o———

Section III.—Physical Exploration, Diagnosis, and Prognosis.

1. *Ocular and Digital Examination.* Preparatory to a thorough inspection of the rectum, and a few hours previous to making it, the bowel should be completely emptied by either a dose of castor oil, or a relaxing enema. Should there exist much pain and anal spasm immediately after the evacuation of the bowel, the following suppository should be administered a short time previous to making the examination, unless it should be considered preferable to use an anæsthetic instead :—

Recipe, Extracti Belladonnæ, granum unam,
Morphiæ Sulphatis, granum dimidiam,
Butyri Cacao, scrupulum.
Misce et fiat suppositorium.

The rectum and the bladder being completely evacuated, the patient should be placed on his left side, on the edge of a bed, if high enough, or on the edge of a table, in front of a strong light; his head and shoulders depressed, his pelvis elevated, and his nates widely separated by an assistant.

The first object of attention will be the external appearance of the anus itself, which in anal fissure is most always in a highly contracted state, and more or less infundibuliform; indeed, in such a case the observer will be struck with the very considerable depth to which the anus is retracted, producing a quite unnatural appearance of it. Sometimes, however, in cases in which the fissure is located in the fossa between the two sphincters, the anus, instead of being firmly contracted, its external margin will

present a peculiar laxity, and a bulging or jutting of one or the other side like a swollen lip. Another object that will, if it exists, attract the attention of the observer in this disease, is a pendulous projection or polypiform body (Fig. 4),

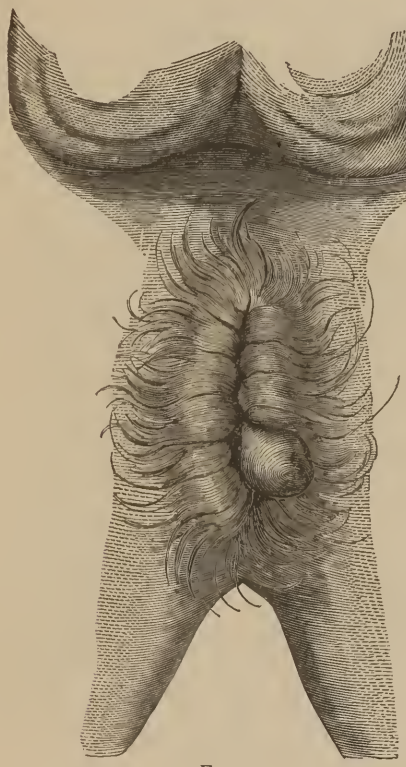

Fig. 4.

varying in length from two to eight lines, and of different forms, composed of the integument at the margin of the anus, and existing in most all cases of any considerable duration. This condyloma or anal excrescence is always located at the base, or inferior extremity of the fissure, and is an unerring guide to it. I look upon this excrescence as being almost the pathognomonic sign of anal fissure; and I

have seen but few cases indeed in which it was not present. By placing a finger on each side of the tumor, and pressing it out and down (Fig. 5), the fissure will be seen.

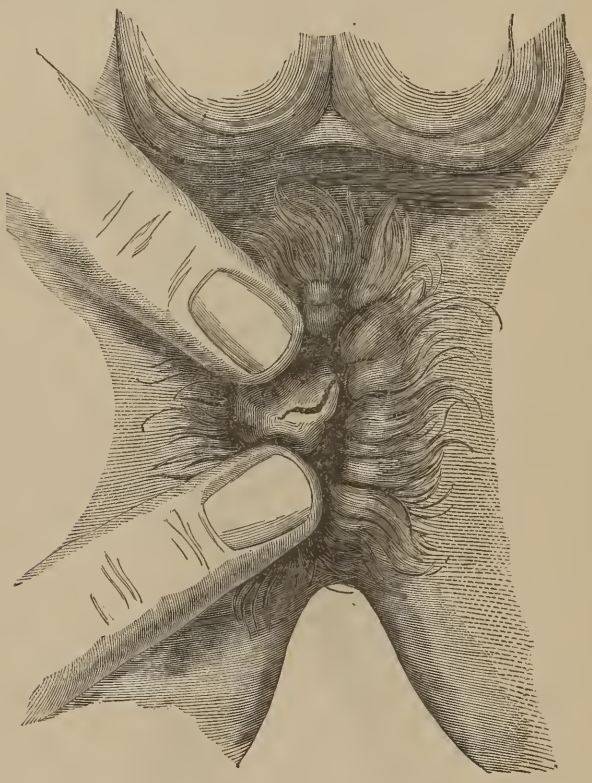

Fig. 5.

M. Velpeau mentions this excrescence. He says: "It is not unfrequent, in fissure, to find a hæmorrhoidal tubercle forming, as it were, its root, and receiving, so to speak, its tail."—(*Loc. cit.*) Mr. Syme also notices it: "There is generally," says he, "a small, firm, red-colored pile, like a pea in size and form, at the base or outward extremity of the fissure, which tends not only to conceal the sore but to render its exposure more painful. To a practised eye, indeed, the peculiar form, consistence, and color of this

little swelling render it a good guide to the seat of annoyance; but it much more frequently misleads to the idea that there is no local complaint, or only an external hæmorrhoid."—(*Op. cit. p.* 126.) Mr. Smith, in speaking of the same, says: "Not unfrequently a small tumor or hæmorrhoidal excrescence will be found at the verge of the anus; on well exposing this, the fissure or ulcer will be seen, hid as it were behind it. In fact the existence of this small tumor is a pretty correct indication of the presence of the ulcer."—(*Op. cit. p.* 128.)

On proceeding to search for the fissure, which is often difficult to find, being hidden in the folds of the anus, the nates, as before observed, should be well divaricated by the assistant, while the surgeon should forcibly separate the sides of the anus with his thumbs, when the inferior extremity of the fissure will be brought into view, its edges will diverge, and its true character may be ascertained.

When, however, the fissure is situated above the external sphincter of the anus, this proceeding will not suffice to bring it in sight, but a resort must then be had to the dilatation of the anus by the use of the speculum ani, or by the introduction of the finger, in order to detect it. The examination either with the finger or the speculum should not be made immediately after the evacuation of the rectum, if pain and anal spasm exist; better wait for the effect of the suppository, or for a few hours until the pain and spasm shall have measurably ceased. Of course, if either *æther* or *chloroform* is employed, it is not essential to observe this delay. The existence, the exact situation and character of the fissure, may often be indicated by the finger alone introduced into the anus and anal canal, especially in a case of long standing. The lesion will be detected by the sensation communicated to the finger, of roughness of its surface, or hardness of its edges; or by a feeling of something like a hard wrinkled cord. Pressure should be made in every direction

around the periphery of the canal. If the fissure is touched or pressed upon by the finger, its existence will also be confirmed by the sensations of the patient, if not made insensible by an anæsthetic, who will experience the most severe pain, as M. Dupuytren truly says when describing this disease, "*la pression fait ressentir beaucoup de douleurs.*"—(*Loc. cit.*)

The index finger of the right hand being warmed and well lubricated with either *cacao butter*, the simple cerate of the French pharmacopœia, glycerine, the white of an egg, or olive oil, should be gently and gradually *insinuated* into the anal canal. Any attempt to penetrate roughly or rapidly will be very liable to excite resistance from the muscles, and the passage of the finger or other instrument would occasion more or less suffering and after-distress, and greatly interfere with the progress of the examination. I always use the butter of cacao for lubricating or besmearing the finger, the speculum, the sound, the bougie, &c., in making an examination of the rectum, the vagina, the uterus, and the urethra. There is nothing better for this purpose, as it is soothing and relaxing, and not readily absorbed. I usually make the digital examination first, before using the speculum; the finger dilates the anus, and prepares the parts for the easy entrance of this instrument. The instrument I most use in anal fissure is the small bi-valve speculum ani, represented by Fig. 6. It, like the finger, should

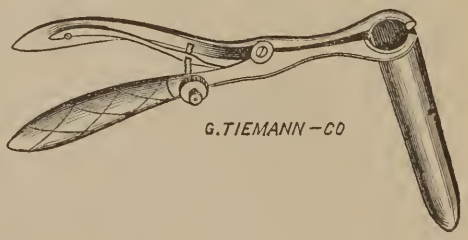

Fig. 6.

be warmed and well lubricated before being introduced; it

should then be gently and slowly passed up into the rectum, and opened and rotated until the whole mucous surface of the lower end of the bowel is clearly brought into sight. Should the view be obstructed in the least, by either mucus, blood, or fæces, a small mop made of fine sponge and attached to the end of a rod should be at hand to remove any of these matters. The instrument should be carefully withdrawn with the blades partially open. The only objection that can be urged against this valvular speculum, is that in instances, in which there is a superabundance of integument and mucous membrane at the anal extremity of the rectum, it too readily permits their protrusion between its blades, and thus more or less prevents an accurate inspection of the parts. The instrument is made of polished steel, or silver-plated.

I have found the tri-valve trellis speculum ani, represented by Fig. 7, a very valuable instrument for the purpose of

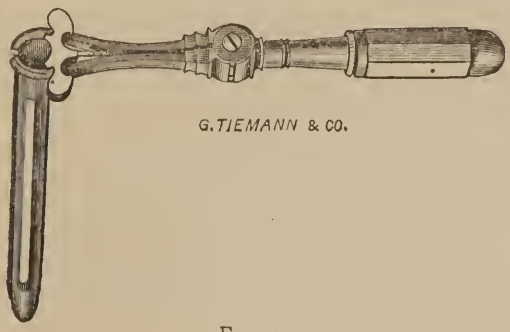

Fig. 7.

discovering a certain kind of fissures or ulcers of the rectum. I devised it a number of years ago, as an instrument to be used in detecting the bleeding vessel in case of traumatic hæmorrhage of the rectum. It is small when closed and easy of introduction, and when introduced admits of extensive expansion by simply revolving the handle. As an anal speculum, especially in cases of fissure of the anus, I have

also found the simple and highly polished steel instrument, in the form of a large blunt gorget, as delineated by Fig. 8, very efficient and valuable. It is passed up into

Fig. 8.

the rectum upon the finger, with its concavity looking towards the seat of the disease, and when in to the depth of two and a half or three inches, the mucous surface of the canal at that height can be plainly seen reflected on its polished concave surface; at the same time the lower portion of the canal can be most accurately examined by the eye, by causing the patient to evert the anus as much as possible. By passing this instrument gently and slowly around the canal, the whole internal surface of it may thus be accurately inspected. It requires a strong and bright light. The idea of using an instrument of such a form was first suggested by Mr. Colles, who objected to the various kinds of anal speculæ in common use, and employed for this purpose the large blunt gorget, and found it superior to any other. He subsequently made an improvement on it. In order to introduce it with greater facility he accurately fitted it to one side of a conical piece of polished box-wood, representing in its transverse section a full ellipse, so that when both were joined they presented a perfectly smooth outline. After the instrument thus united was introduced to the proper depth the wooden plug was withdrawn.—(*Loc. cit.*)

The instrument I designed is easy of introduction upon the finger, without the use of the plug.

On a dark day, or whenever a strong light is required in making rectal examinations, I always use the portable apparatus depicted in Fig. 9. It consists of a gas or oil lamp, with a reflector and a lens attached.

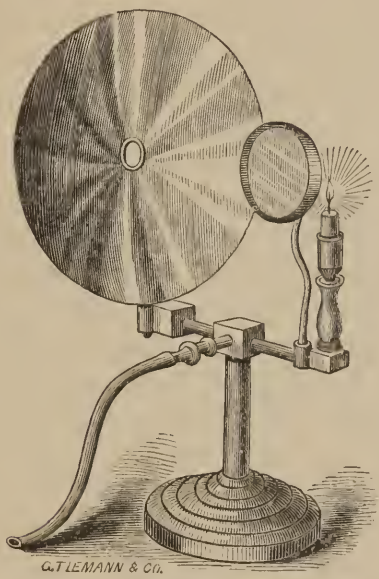

Fig. 9.

My son, Dr. W. H. Bodenhamer of Chicago, in examining the rectum in case of anal fissure, is in the habit of employing the cylindrical speculum used for examining the condition of the membrana tympani, with a prism attached to it. He considers this instrument preferable to any others for this particular purpose.

2. *Examination with the Probe.* The method which I generally adopt in making the examination for anal fissure, obviates the necessity of distending the anus,—hence the extreme suffering consequent upon such dilatation is entirely avoided. No anæsthetic generally need be employed. I make the examination with a silver probe seven inches

long and slightly curved at its distal end (Fig. 10). The probe should be dipped in glycerine or olive oil, and gently introduced some distance up the anal canal; then it should be brought down gradually, with its curved point pressing upon the side or wall of the canal, and as soon as it comes in contact with the fissure the patient will at once manifest it by the sensation of pain he will experience. This exploration with the probe may be continued around the whole circuit of the canal until the fissure, if any, is detected.

Fig. 10.

3. *The Diagnosis.* Apart from the confusion that surrounds the subject, there is no disease of the rectum or anus in which the diagnosis is more easily established than in anal fissure. The surgeon can always, by a physical examination, determine at once its presence or its absence in all doubtful cases. Indeed the manifestation of the disease is such that even the symptoms alone are, in most instances, sufficient to establish the diagnosis beyond all doubt. The peculiar character of the pain; the time of its access, either during or some time after an evacuation of the bowels; its continued increase until it becomes agonizing; and its gradual or its sudden decline and entire subsidence until the next evacuation, are circumstances which unmistakably characterise it. In describing this pain, the patients too generally use the most hyperbolic terms. In short, the question is not, Is the breach of surface of a peculiar form? or is it attended by spasmodic contraction of one or both sphincters of the anus? but it is—*Is the breach of surface of an exquisitely sensitive, or highly irritable and painful character?* This is the chief diagnostic; and this is always easily decided by the sensations produced by touching the ulcer with the finger or the probe, or by the passage of the fæces over it in the act of defecation. I consider, too, that the peculiar time of the accession of the

pain is very important in the diagnosis of this disease; though some may think it speculative, and of no real value. Nothing, however, should be neglected that would in the least tend to dispel the confusion in which this ingular affection has been involved. As far as it relates to spasmodic contraction of the sphincter or sphincters of the anus as a symptom of anal fissure, I would observe as before, that when it is caused by fissure, the pain is infinitely more acute, more intense, than when caused by any other disease of the mucous membrane of the inferior extremity of the rectum, —such as inflammation, irritation, tumefaction, hæmorrhoids, etc.; and also much more severe than when produced by disease in the genito-urinary organs. This purely spasmodic contraction of the anal sphincters, too, must not be confounded with permanent or organic contraction of the anus, as is frequently done. The first consists of a spasmodic and accidental contraction only of the sphincter or sphincters of the anus; whilst the second consists of a permanent narrowing, thickening, and hardening of the orifice and canal of the anus. The second, however, is often the result of the first.

Neuralgia of the Anus. Anal fissure is often mistaken and treated for neuralgia of the anus, or inferior extremity of the rectum; and, of course, with entire failure of affording any permanent relief. A number of such instances have come under my own observation, and will be found reported in this work under the head, "*Illustrative Cases.*" Dr. Bushe committed this error. He reports three cases, which he describes as neuralgia of the inferior extremity of the rectum; but not one of them, in my opinion, was a true, genuine case of neuralgia; for the evidences of structural disease of the mucous membrane, at the exquisitely sensitive points described, are too clear, from which to draw any other conclusion. The complete success attending the operation of Dr. Bushe in one of the cases, tends to prove

that it was not neuralgic; and in the third case the bloody and mucous discharge proved that in it there was some structural disease of the canal.—(*Op. cit.*, *p.* 112.)

Anal fissure is very readily distinguished from neuralgia, by the absence in the latter of any breach of surface, or of any other disease of the mucous membrane of the rectum; by the entire want of connection between the pain and the alvine evacuations; and the constant suffering. In neuralgia, the pain caused by pressure with the finger in ano is not confined to one particular spot, as it is in fissure; but all the parts around the anus are tender alike. In anal neuralgia, too, instead of its being often attended by spasmodic contraction of the anal sphincters, the muscles will be found in a too relaxed condition. The pain of neuralgia is severe, but quite independent of contact.

It is true that the morbid sensibility of the rectum and anus caused by a fissure, and that caused by neuralgia, are often so intimately blended, that it is sometimes no easy matter to distinguish between them; nothing but the detection itself, in some cases, of the fissure, which can now always be discovered by a proper examination, will clear the diagnosis.

Hæmorrhoids. Anal fissure is often mistaken and treated for internal hæmorrhoids. It is surprising how often this error is committed by practitioners, otherwise intelligent. The contrast between the two diseases is so great and so obvious, that it appears strange that such a blunder should ever be made; it is doubtless in consequence of the neglect of a proper examination. I will in the proper place report a number of examples of this error in diagnosis. Anal fissure and hæmorrhoids are often associated, and when they are so, they are frequently treated simply as piles;—several examples of which will also be given hereafter.

Uterine Affections. The symptoms of anal fissure in women, who are more liable to the disease than men, are generally

more severe and more complex, and very often simulate so closely uterine disease, that they are consequently well calculated to mislead the surgeon, and cause him to overlook the real seat and the true nature of the disease. A careful inspection, however, of all the parts concerned, will at once remove all errors in diagnosis, and dispel all doubts.

Occult Fistulæ and Sacculi of the Anus. Anal fissure is liable to be confounded with blind internal fistulæ, or with sacculi of the anus, as some of the symptoms of these two diseases somewhat simulate those of the former; that is, there is sometimes a more or less dull, heavy, aching pain after stooling, which, however, is by no means so severe and unbearable, neither does it observe that regularity in coming on and in continuing to increase as the pain does in anal fissure, nor is it present at every evacuation, but several days may supervene and several evacuations may take place without its appearance, yet it may come on at the very next stool. These two diseases are never attended by anal spasm; but there is always a more or less discharge of pus, which but seldom occurs in fissure. Blind internal fistulæ and preternatural pouches of the rectum are easily detected by a physical examination of the canal. It should be explored by means of a hooked probe (Fig. 11), as recommended by Heister (*Institutiones Chirurgicæ. Part II., Sect. V., Chap. CLXVIII. Amstelædami*, 1739) and Dionis (*Cours d'Opérations de Chirurgie démonstrées au Jardin du Rio. Tome I., p.* 405. *Huitième Edit. Par de la Faye. Paris*, 1782). About half an inch of the distal end of the common silver probe should be bent back upon itself, so as to form a kind of hook, somewhat like that already recommended for examining anal fissure. The probe thus bent should be passed up the canal five or six inches, and then brought slowly back with the point bearing

Fig. 11.

successively on the different parts of the circumference of the rectum. Should an occult fistula or a sac exist, the reverted point of the probe will pass into its orifice and cavity, and render its existence and character at once sufficiently obvious.

Syphilitic Sores about the Anus. Venereal ulcers in this locality, in the form of fissures, clefts, rhagades, etc., contrast remarkably with the real irritable and genuine anal fissure They are chiefly confined to the integument, or muco-cutaneous coat about the anus, and seldom extend to any distance within the anus. The edges are somewhat elevated and thickened, and the surface secretes an abundance of adhesive pus which forms crusts or scabs. These sores, as a general rule, are attended with but little pain at or after defecation, and by no spasmodic contraction of the anal sphincters; and thus again contrasting greatly with genuine fissure of the anus. The characteristic appearance of the ulcer, its painless nature, the absence of anal spasm, and the class of persons affected, remove all doubt as to the nature of the complaint.

4. *Complications of Anal Fissure.* Fissure of the anus will often be found complicated with hæmorrhoids, with condylomata about the verge of the anus, or with anal fistula; or all these combined in the same case, several examples of which will be reported elsewhere in this work. It often coexists with disease in the genito-urinary organs. Anal fissure is very liable, from the continued irritation it produces in the parts, to result in fistula in ano. A number of such examples will be found reported in this work. It also gives rise sometimes to spermatorrhœa, several cases of which I have met with in my practice; also, to permanent organic contraction of the anus, etc.

5. *The Prognosis.* As a general rule, anal fissure is by no means an immediately dangerous disease; yet it is one which is often accompanied by so much severe suffering, that it is

of the highest importance to afford as speedy relief as possible. If the disease should be left to the resources of nature, it might continue for an indefinite period before the patient would finally succumb; as nothing authentic has been ascertained of its ever having been cured spontaneously, or without the aid of art. The general health of the patient is at first but little affected; but when the disease has progressed for some considerable length of time, his constitution begins to fail, and he grows pale, sallow, and listless, and from continued suffering he becomes exhausted, falls into a state of gradual decay, and thus succumbs; or he ultimately becomes attacked by some incurable organic disease, which carries him off.

CHAPTER FIFTH.

THE TREATMENT.

CHAPTER V.

THE TREATMENT.

Section 1.—Precautionary and Palliative Measures.

It is a source of regret that anal fissure, which is generally the production of a slow morbid alteration of the parts, should receive so little attention from patients, except in its considerably advanced stage. The surgeon is scarcely ever consulted until the disease is fully developed.

Constipation, if not the immediate cause of this affection, is nevertheless almost always an accompaniment of it, and is a constant source of its continuance. It is therefore highly important to the success of any treatment, that this condition of the bowels should be corrected, by securing their daily evacuation, and thereby preventing fæcal accumulation. It should also be a primary object in these cases to prevent the formation of acrimonious matter in the bowels, and to take especial care to preserve an easy and regular transmission of their contents, which, for this purpose, should as much as possible be kept in a semi-fluid state, as figured or hard stools generally aggravate the symptoms. This must be effected by enjoining the most bland and unirritating diet, and by the use of emollient enemata or mild aperients. Purgative medicines, however, should be avoided as much as possible, as the mildest of them more or less stimulate and irritate the inferior extremity of the rectum. To accomplish the certain evacuation of the bowels every day, and the easy transmission of their contents, I generally recommend an enema of rich flax-seed tea, say from half a pint to a pint, to be administered every morning immediately after

breakfast; or I use the following, which is more efficient:—

Recipe, Olei Ricini vel Olivæ, unciam,
Infusionis Seminum Lini tepidæ, uncias octo.
Misce et fiat enema.

Fig. 12.

The enema should be repeated in half an hour, if the first should fail to produce the desired effect. In the administration of enemata in these cases, in order to avoid as much as possible pain or injury to the highly sensitive parts affected, I use the gum-elastic jets, applied to the nozle of the enema syringe (Fig. 12). They are easily adjusted over the bone, wood, or metal enema pipe; and being soft and elastic, are not so liable to cause pain or do harm.

If the persevering efforts in the use of enemata should fail to regulate the bowels, some mild laxative should occasionally be given to aid the injections. Great care, however, must be taken in the choice of such laxative; the object being not to purge, but to render the fæces soft, so that as little stretching of the fissure as possible should take place. I often use the following aperient in such cases, with most excellent effect:—

Recipe, Sulphuris loti,
Magnesia calcinatæ,
Saccholactin, ana, unciam.
Misce et fiat pulvis.

A teaspoonful of this powder should be taken in a little simple syrup an hour or two before breakfast. If it should fail to produce the desired effect, the same quantity should be taken night and morning. One stool only is required in twenty-four hours; more than one aggravates the case.

During the treatment of this disease, in order to lessen pain, it may be necessary to use fomentations to the anal region as hot as can be borne, applied in the form of either

flannel cloths or sponges saturated with plain or medicated hot water; or a large flax-seed poultice applied as hot as can be borne, and often renewed. When there is much inflammation, congestion, and tumefaction, as in instances of long standing, the application of leeches, together with the fomentations, I have found highly beneficial in relieving the pain and spasm in those cases. Cold applications, however, are sometimes more grateful to patients suffering from anal fissure than hot ones, and may be tried when the others fail. Local anæsthesia is in some cases highly valuable, and may be employed, using for this purpose either *sulphuric ether* or *rhigolene*.

One would suppose, from the locality and character of the large blood-vessels of the inferior extremity of the rectum, that the recumbent or horizontal position of the body, after evacuating the bowels, would relieve the pain, which in some instances it does to some extent, whilst in others it seems only to aggravate it. The horizontal posture, however, as a general rule, does afford more relief than any other position.

I have recommended to a number of my patients the proceedings of M. Gossement as a palliative measure in anal fissure; who, after several trials, and becoming expert in its execution, have experienced the most happy results. M. Gossement's method, as given by M. Malgaigne, is as follows:—"When the patient feels the desire to go to stool, he should moderately pinch, with two fingers, a portion of skin equivalent to almost one-sixth of the circumference of the anus, and comprising the fissure; at the same time pushing from within outwards, so as to enlarge the anal orifice, and give a new fixed point, not bearing on the fissure, to the sphincters; thus hindering the former from being dragged and strained by the passage of the excrements. In this way the pain is almost always avoided."—(*Operative Surgery. English Version, by F. Brittan, M.D., p.* 429. *Philadelphia*, 1851.)

Section II.—The Treatment pursued by the Author.

1. The treatment here laid down has been practised by the author for twenty-five years with invariable success. It will be observed that it consists of topical medication combined with dilatation, and sometimes incision or scarification.

The chief indication in the treatment of anal fissure is to modify the surface of the ulcer, and transform it into a simple or a common sore, which then under ordinary circumstances will heal like any other solution of continuity.

The treatment varies according to the stage of the disease and the locality of the ulcer. If the fissure is recent, very superficial, and not in the grasp of the external sphincter muscle, strict attention to the state of the bowels, and ablutions with soap and water night and morning, and after each act of defecation, will usually effect a cure in a short time. The soap which I have used for years in such cases is *Brecknell's "Old Yellow English Soap;"* but of late I have used as a substitute the "*Juniper Tar Soap*" of Messrs. Caswell, Mack & Co., of New York City, and found it very beneficial. Should this course, however, not afford relief in a short time, the following lotion, or the following ointment, may be used in addition to the ablutions, etc.:—

Recipe, Sodæ Chloridi, drachmas duas,
Aquæ destillatæ, uncias duas.
Fiat lotio.

Pledgets of lint should be saturated with this lotion and kept applied to the anus by the T-bandage, and frequently renewed. Or the following ointment may be spread on lint and kept applied in the same manner:—

Recipe, Unguenti Plumbi Acetatis,
————Oxydi Zinci, ana, unciam,
Acidi Hydrocyanici, guttas viginti.
Misce et fiat unguentum.

When the fissure has existed for some time, and its edges are hard and elevated, they should be destroyed down to the bottom of the ulcer or sensitive parts, by the application of either the nitrate of silver, the acid nitrate of mercury, or the nitric acid. Since 1842 I have used the nitrate of silver as a topical application in this disease with the most uniform and the most signal success. As an application in anal fissure, it is capable of producing several different effects. It lessens or calms the nervous irritation which so powerfully tends to induce spasmodic contraction of the sphincters; it coats and shields the raw and exposed mucous surface; it removes the diseased and morbid action of the parts; and it destroys the hard or callous edges.

The form in which I usually employ this salt is in solution, according to the following formula:—

Recipe, Argenti Nitratis, drachmam,
Aquæ destillatæ, unciam.
Fiat solutio.

The solution should be applied to the fissure with a silver probe or a camel-hair pencil once in twenty-four or forty-eight hours, according to circumstances. The application is made by separating the margins of the anal orifice with the thumb and index-finger of the left hand, and introducing into the anus the probe or pencil charged with the solution. Should the fissure be more than the third of an inch above the margin of the anus, it would be necessary to use the speculum, especially if the camel-hair pencil is employed; and should there be much pain and anal spasm, it will be necessary to induce anæsthesia. The probe should be dipped in the solution and applied to the fissure only, if possible; a few drops are all that is required. The first application generally causes very acute pain for twenty or thirty minutes; this, however, may be very much relieved by the application immediately after of glycerine, olive or almond oil, which will not in the least interfere with the good effects of

the solution. After the immediate effect of the solution has subsided, it acts like a charm in calming the morbid irritability of the fissure; and by the third or fourth application, in all ordinary cases, the edges of the ulcer will exhibit that pearly color characteristic of approaching cicatrization.

I have also employed the *liquor potassæ* with singular good effect in some cases of anal fissure, applied in the same manner. It, like the former, allays the irritability of the fissure in an astonishing manner; but I have noticed that cicatrization does not so readily and so rapidly follow its use as it does that of the nitrate of silver. The following mixture, as a topical application in anal fissure, has been highly extolled by M. Chapelle, of Angoulême:—

> Recipe, Spiritus Vini rectificati, drachmam,
> Chloroformyl, guttas quindecim.
> Fiat mistura.

I have used this mixture in several cases recently with a very happy effect. The disease in these cases, however, was not of a very aggravated form. It must be applied to the fissure with either the probe or camel-hair pencil.

In very aggravated cases, especially those of long standing, I use the nitrate of silver in its potential or solid form. I usually cut a stick of the caustic to a point or angle, and passing it back and forth along the fissure rapidly for a minute, and then applying the glycerine or olive oil; or, what is still better, I coat the end of a silver probe by dipping it into the fused nitrate of silver, and applying it to the fissure. It generally requires but two or three applications of the solid nitrate of silver to effect a cure. I have also, in aggravated cases, used the liquid acid nitrate of mercury, and the nitric acid, with the most happy results. Great care, however, must be taken in the use of these powerful agents. They must be applied to the fissure by means of a small glass probe. The probe is dipped in the liquid, and a drop or two adhering to it is quite sufficient. The cure is effected

frequently by two or three applications, several days intervening between each. To aid in destroying the hard and elevated edges of the fissure, besides the other treatment, I sometimes scarify them every few days with a small sharp-pointed lancet.

In those ulcers located in the fossa between the two sphincter muscles, in addition to one or the other of the applications already named, I have used with most decided good effect the following ointment:—

℞ Hydrargyri Oxydi cinerei, drachmam dimidiam,
Cerati Simplicis, unciam unam.
Misce et fiat unguentum.

The ointment should be applied immediately to the affected part by means of the suppository tube. The tube should be well lubricated on the outside with the ointment; then it should be charged with from half to a teaspoonful of the same, and passed into the anal canal to the depth of an inch, an inch and a half, or a little beyond the ulcer, and the piston pushed down. Or the ointment may be introduced by means of the valuable breech-loading syringe for administering semi-solid substances, devised by Dr. J. C. Hutchison and improved by Mr. Stohlmann. This instrument, represented by Fig. 13, is far preferable to the suppository tube for this purpose. It is made of hard rubber, and consists of a hollow cylinder and a staff. The staff is nothing more than a tube, the end of which passes through an opening into the chamber, and is attached to a piston having a perforation in its centre corresponding to that in the tube. From the shoulder on the

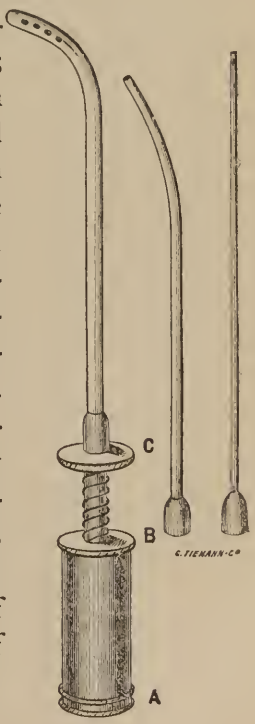

Fig. 13.

staff to the upper portion of the chamber is a spiral spring which draws up the piston to the top of the internal portion of the cylinder, and thus enables the syringe to be easily filled. The lower end of the cylinder has a screw-cap, which can be removed for the purpose of loading it with semi-solid substances, such as ointments and the like. The advantages of the instrument over others of its sort are, that it can be worked easily with one hand, by bracing it in the hollow of the palm and pressing upon its shoulder with the two fore-fingers, and, when ointment is used, the lack of danger in soiling the wristband or coat-sleeve by any regurgitation. The principle upon which it works is obvious, the pressure of the piston upon the column of fluid or semi-solid forcing the substance through the tube. The shoulder is provided with a screw on its upper surface, to which can be attached any sized tube for the different canals of the body. It is of course only really useful in those cases which do not require a continuous injection, or more than one charge of the fluid at a time, and hence will answer a good purpose in hæmorrhoidal affections where an anodyne ointment is indicated; and in various affections of the urethra, throat, ear, uterus, &c. In most cases the patient can make the application without assistance.—(*The Medical Record. Vol. III. pp.* 95, 166. *New York*, 1868.)

The ointment should be introduced shortly after the evacuation of the bowels, and not more than once in twenty-four hours. As a good substitute in such cases, the following ointment may be used in the same manner:—

Recipe, Calomelanos, grana viginti,
Axungie, unciam.
Fiat unguentum.

The anal excrescence or condyloma which is most always present in this disease, and which is evidently caused by the irritation or inflammation of the fissure, generally gets gradually less as the fissure heals, and the ir-

ritation of the parts subsides, and ultimately disappears. Should it, however, not do so, it must be snipped off with the curved scissors; or removed by the application of chromic acid, the chloride of zinc, or the potassa fusa.

2. *Distention of the Spasmed Anal Sphincters.* When the fissure is accompanied by spasmodic contraction of one or both sphincters of the anus, the healing of the ulcer is more or less protracted in consequence of such constriction, which, although a mere symptom, is nevertheless a source of considerable mischief, as it occasions much additional pain by compressing the fissure and preventing the healing of it as rapidly as it would otherwise do. This spasmed state of the sphincter ani muscles should therefore be overcome by treatment, in addition to, and separate and distinct from that of the fissure itself; not, however, by having recourse to section of the sphincter muscles according to M. Boyer, but by the milder, safer, and equally certain method of distending them.

The object of employing distention of the sphincters by either the bougie, the fingers, or tents made of lint, is not only to produce relaxation of the constricted muscles, but also, by the firm pressure, to render them less irritable, and consequently less susceptible of the sympathetic impressions of the fissure, which are in reality the cause of the spasmodic contraction. Previous to using the bougie in such cases, I always make a few applications to the fissure of the nitrate of silver, which, by shielding the mucous membrane, and removing the nervous irritability of the parts, materially facilitates the introduction of that instrument, and thus renders the dilating process easy and comparatively free from pain. In cases in which the sphincters are powerfully contracted, I administer the following suppository about one hour before introducing the bougie :—

Recipe, Extracti Belladonnæ, granum unam,
Butyri Cacao, scrupulum.
Misce et fiat suppositorium.

This may be administered by means of the suppository tube, the breech-loading syringe, or it may be rendered fluid by warmth and injected into the rectum with a small syringe. It is invaluable in such cases, as it relaxes to a considerable extent the muscular constriction, and greatly assists in the distention of the anus and anal canal, while it lessens the pain arising from such distention. The effects of the belladonna, however, must be closely watched, as in some instances bad results follow its too free and indiscriminate use. Sir Benjamin Brodie, on this account, discarded it altogether. I have never witnessed but one case in which alarming symptoms presented themselves from its use, and that was a case in which the belladonna ointment had been without judgment excessively used. If the dilatation is carefully and gradually made, I have always found that the introduction of the bougie, excepting the first time, is attended with but little pain. Every time it is inserted the pain is less. The bougie should not be used when the patient is suffering severely; better wait several hours after stooling, or just before the evacuation, when all the parts are in a quiescent state. Should anæsthesia be determined on, however, the bougie could be used at any time.

For the purpose of dilating the anus and anal canal I use wax bougies of gradually increased sizes, commencing with a number three. The English rectal bougie, however, answers very well for this purpose. The bougie must be passed through the constricted portion of the canal, and immediately withdrawn; but it should not be so large, neither should the force be so great, as to lacerate or rupture the mucous membrane or muscular fibres, this not being contemplated by the operation of distention or dilatation. The gradual dilatation of the sphincters, and lower end of the rectum, if judiciously performed, is speedily followed by great relief, and ultimately by complete recovery.

When anal fissure is caused by aphthæ or canker, which

is sometimes the case, several marked instances of which having come under my own observation in nursing mothers, as well as in others, I apply to the fissure the nitrate of silver, and at the same time inject from half to a teaspoonful of the following ointment, night and morning, into the anal canal by means of the suppository tube, or breech-loading syringe :—

Recipe, Bismuthi Trisnitratis,
Glycerine, ana, drachmas duas,
Cerati Simplicis, unciam.
Misce et fiat unguentum.

Whilst these applications are being made, I recommend the patient to take a teaspoonful of the following powder three times daily. It should be taken at meal-times, well mixed in as much water as will make it thin enough to drink :—

Recipe, Pulveris Bismuthi Trisnitratis,
———Acaciæ, ana, unciam,
———Sodæ Bicarbonatis, semi-unciam,
———Zingiberis,
———Sacchari purificati, ana, drachmas duas.
Misce et fiat pulvis secundum artem.

I have also used the *potassæ chloras* in such cases with a most happy effect. To an adult, from twenty to thirty grains in solution may be given three times daily. To an infant one year old, from three to six grains in solution may be given three times daily. I have found this an invaluable remedy in follicular and in ulcerative stomatitis.

If this treatment is persevered in for eight or ten days, with strict attention to diet, it will without fail result in a cure of both the aphthæ and the anal fissure.

3. *The Author's Treatment of Anal Fissure in Infants.* In the treatment of the fissure of infants, I first administer an enema of flax-seed tea and olive oil, to empty the rectum, and whilst the parts are protruded in the act of defecation, I ap-

ply the nitrate of silver in solution to the fissure, which is plainly brought into view by the straining efforts of the child. The application can be made in an instant, and before the parts return. The butter of cacao, glycerine, or olive oil, should at the same time be applied to the fissure, as well as to all the parts. One hour after this is done, I administer the following astringent and tonic enema, which, if possible, is to be retained:—

Recipe, Extracti Rhataniæ, grana quinque,
Aquæ Rosarum, unciam.
Misce et fiat enema.

These measures should be repeated once every twenty-four hours until the cure is completed. If constipation of the bowels obtains, and the relaxing enema does not relieve it, mild aperients should be used in addition.

In the fissure of infants, caused by and complicated with aphthæ, I apply the solution of the nitrate of silver and the ointment of bismuth to the fissure, whilst I recommend the following infusion and powder to be given to the child. A teaspoonful of the infusion should be given every three or four hours to a child six or eight months old; and three or four grains of the powder should be applied every few hours to the child's tongue, by which it will be carried over its mouth:—

Recipe, Pulveris Ipecacuanhæ, grana sex,
Tincturæ Opii, guttas quatuor,
Olei essentialis Menthæ piperitæ, guttam unam,
Sacchari purificati, drachmam,
Aquæ bullientis, uncias tres.
Fiat infusio.
Recipe, Pulveris Boratis Sodæ,
————Sacchari purificati, ana, scrupulum.
Fiat pulvis.

This treatment persistently followed will soon relieve both the thrush as well as the fissure.

Anal fissure in children is often caused by erythema of the anus, and when this is the case, all the affected parts should be treated. Attention to cleanliness is of the utmost importance to bring about a cure of both the erythema and the fissure. Bathing the parts frequently with soap and water, and with the infusion of marsh-mallow or flax-seed, or gum-arabic water, will tend greatly to expedite the cure. It is important to change the linen frequently. In these cases I have found great benefit by the frequent application of the *pulvis lycopodii* to the whole diseased surface. It protects it in the most perfect manner possible, for it is not pervious to liquids, and water runs off its surface. It is far preferable to starch, which when moistened forms a crust which is difficult to remove. The bismuth ointment, simple cerate, cacao butter, or fresh lard, are good applications. One or the other should be spread on lint and kept applied to the anal region by the T-bandage or by the diaper.

By this simple treatment I have never failed to effect a cure in a short time.

—o—

Section III.—The Different Methods of Treatment.

The various methods which have been recommended, from the earliest times to the present, for the cure of anal fissure, may be comprised under the following heads :—

First.—Topical applications of numerous and various kinds, including enemata, both simple and medicated, and suppositories.

Second.—Cauterization, with either the potential or the actual cautery.

Third.—Dilatation of the anal sphincters.

Fourth.—Incision of the mucous membrane of the anal canal, together with the sub-mucous cellular tissue ; or scarification of the fissure.

Fifth.—Excision of the fissure.

Sixth.—Complete division of the sphincters of the anus.

1. *Topical Applications.* Some authorities say that anal fissure can never be cured by topical applications, that at best they can only palliate; others again even go so far as to say, that they only aggravate the disease. This, however, is not true, for hundreds of instances can be adduced in which some of the most aggravated cases have been cured by such measures. Even M. Boyer himself, who denounced all such treatment as worse than useless, gives an instance in which he succeeded in curing a case of anal fissure, accompanied by spasmodic contraction of the anal sphincter, by injecting into the rectum two or three tablespoonfuls, three or four times daily, of the following admixture :—

℞ Expressed Juice of House Leek (*Sempervivum Tectorum*),
———-———of Garden Nightshade (*Solanum Nigrum*),
Olei Amygdalæ, ana, ℥ iv.
Axungie, ℥ iij.
Fiat mistura secundum artem.

This mixture, made moderately warm, was injected with a small syringe.—(*Op. cit. p.* 612.)

To those who contend that topical applications are at best mere palliatives, and do not cure the disease, I reply that division of the sphincters is only palliative, and does not eradicate or break up the morbid condition of the parts.

M. Dupuytren reports a number of severe cases of anal fissure which were cured by his celebrated ointment, introduced into the anus on pledgets or tents of lint. The following is a report of one of his cases :—"A healthy young woman had been affected for some weeks with very violent pains in the anus whenever she went to stool, especially when the fæces were hard. At first these pains continued only for a few minutes, but afterwards they persisted longer, and finally continued during some hours. When she

entered the Hôtel Dieu her anus was examined with care by M. Dupuytren, who discovered there a very superficial fissure. The constriction of the anus was very considerable; the finger could not be introduced into it without great difficulty and causing great pain. Unwilling to subject the patient to the pain and inconvenience of an incision or cauterization, M. Dupuytren prescribed the introduction into the anus of a roll of lint, besmeared with his belladonna ointment, and renewed every time the patient went to stool. This ointment calmed the pains, and in a few days they entirely ceased, and the patient was entirely relieved of her disease.—(*Revue Médicale. Tome I. p.* 869. *Paris*, 1829.)

M. Beclard, who reports numerous cases of anal fissure, declares most positively that he never failed to cure them by the application of the nitrate of silver in its solid or potential form, and at the same time employing dilatation of the anal sphincters by the use of the bougie.—(*Archives Générales de Médecine. Tome VII. pp.* 310, 339. *Paris*, 1825.)

M. Delaport publishes a case of anal fissure of an aggravated character, in which he used an ointment of belladonna with the happiest effect, after many other remedies had been tried without avail. The ointment was made by mixing one drachm of the extract of belladonna with half an ounce of simple cerate. A roll of lint was smeared with this ointment and introduced into the rectum. The relief was prompt. He prefers this treatment to dividing the sphincters, and does not object to touching the fissure at the same time with the nitrate of silver, by which the pain is suddenly relieved. He mentions instances in which the operation of dividing the sphincter muscles entirely failed. —(*Observations sur l'heureux emploi de la belladone dans un cas de fissure et de constriction spasmodique de l'anus.* In *Journal Général de Médecine. Tome CX. p.* 329. *Paris*, 1839.)

M. Laborderie reports a similar case to that of M. Dela-

port, in which he succeeded in effecting a complete cure by the use of the following ointment:—

Recipe, Extracti Belladonnæ, drachmam,
Liquoris Plumbi Subacetatis diluti, semidrachmam,
Cerati Simplicis, semiunciam.
Fiat unguentum.
(*Revue Médicale de Paris. Juillet*, 1830.)

M. Pagen speaks in the highest terms of a mixture of opium cerate and the extract of *monesia*, as being remarkably successful in the treatment of anal fissure.—(*Gazette Médicale. Tome VIII. No.* 4. *p.* 59. *Paris*, 1840.)

M. Lamoureux states that he succeeded in curing anal fissure by employing belladonna.—(*Société de Médecine de la Seine-Infér. Tome IX. p.* 78.)

M. Descundé says that anal fissure may be cured by administering the oil of hyoscyamus in large doses by the mouth, at the same time employing mercurial ointment as a topical application.—(*Mott's Velpeau. Vol. III. p.* 1112. *New York*, 1847.)

M. Mothe cured anal fissure by topical applications, principally in the form of lotions.—(*Archives Générales de Médecine de Paris. Tome XVII. p.* 648. Also, *Mémoires sur les Fissures à l'Anus.* In *Mélanges de Médecine et de Chirurgie. Tome II. p.* 31. *Paris et Lyons*, 1827.)

Chelius reports having cured cases of anal fissure with the ointment of zinc smeared on bougies and introduced into the anus.—(*Loc. cit.*)

This disease, according to the testimony of some of the most eminent French authorities, has been most successfully treated by the use of *rhatany*. The distinguished M. Bretonneau of Tours in France appears to have been the first who employed and recommended this agent in the treatment of fissure of the anus. He was led to try the effect of the rhatany in this disease, from having observed that constipation was in most cases the cause of anal fissure, and the ob-

stacle to its cure. That this constipation was in a great majority of cases attended with an unnatural dilatation of that portion of the rectum immediately beyond the internal sphincter ani, which thus formed a place of lodgment for the feculent matters, which sometimes accumulated there to such an extent as to be expelled with great difficulty. To correct this morbid condition of the pouch of the rectum, whether accompanied by fissure or not, and to restore it to its natural tone and action, was the object which M. Bréton-neau had in view in employing the rhatany. In several cases then of this condition of the rectum, attended by anal fissure, he discovered that he effected a cure both of the constipation and the fissure, by administering the extract of rhatany in a fluid state as an enema, with the addition of a small quantity of the tincture of the same.

After M. Brétonneau had thus introduced and made known this method of treating constipation and fissure of the anus, his celebrated pupil, the late and lamented M. Trousseau, followed it up with great success in the treatment of anal fissure. The method in which he employed it in this disease is as follows:—He administered to his patient every morning an enema of the decoction of marshmallows, or simply of water, with the addition of olive or almond oil, in order to clear out the rectum. In half an hour after the bowel had thus been emptied, he administered the following enema:—

Recipe, Extracti Rhataniæ, drachmas duas,
Spiritus Vini rectificati, drachmas quinque,
Aquæ puræ, uncias quatuor.
Fiat enema.

This injection he required the patient to retain, if possible; and a similar one to be repeated in the evening. When the pain was once moderated he only administered one daily, and when the cure appeared to be completed, only one every alternate day for about two weeks longer.

He says he derived considerable advantage in the treatment of fissure of the anus, by the employment of an ointment composed of one or two parts of the extract of rhatany to five parts of the butter of cacao.

M. Duclos reports the two following cases of anal fissure in infants which were both successfully treated by M. Trousseau, the first in the Hospital Neckar, and the second in private practice :—

Case First. This was the case of a little girl one year old, under treatment for a white swelling of the knee. This child had been constipated from her birth, but more especially for the four previous months, the bowels being moved only every third or fourth day. Two months previous, the mother remarked that every time the bowels were opened the child screamed violently. The pain appeared to commence with the effort of defecation, to continue during the passage of the fæcal matter, and to be prolonged for a few seconds afterwards. For the last month, more especially, defecation had been exceedingly painful, and at each stool the child had voided a few drops of blood, either before or after the fæces, but never mixed with them. Sometimes the child, after a violent effort, would void a few drops of pure blood, scream violently, and make an effort as if to prevent the escape of fæces, in which no stool took place. The general health was very good. On examination of the anus, the following was found to be the state of the parts: —The circumference of the anus was perfectly healthy, but on deeply separating the folds, at the anterior part, and between two folds of skin, a fissure, a millimetre in width, and about five millimetres in length, of a red color, was distinctly perceived. It was the more clearly seen as the child, screaming violently, protruded the anus. The constriction of the anus was so great, that the extremity of the little finger could scarcely be introduced. M. Trousseau prescribed an enema, composed of the extract of rhatany

one scruple, and water three ounces. The child kept the injection four or five minutes, and passed it along with soft fæces. The injection was repeated daily for five days. Each time the passage of the fæces appeared less painful, and on the sixth day the injection was discontinued. The motions were then easy, free from blood or pus, and unaccompanied by pain. The child left the hospital ten days after, quite cured of the anal affection.

Case Second. This was the case of a child eight months old, well developed, and in previous good health; had been suckled by the mother until the age of six and a half months. At that epoch it was weaned, and was subsequently attacked with violent diarrhœa, which gave way under the use of emollients. The diarrhœa was followed by obstinate constipation. This state had existed for about eight days, when the child was seized, during defecation, by violent pain at the anus, and the fæces were found tinged with blood. From that time the child suffered great pain on defecation and for some minutes afterwards. The fæces were hard, and generally tinged with a few drops of blood. The child was constipated. General state satisfactory. On examining the anus, around its orifice was found a little erythema and eczema which had been occasioned by the diarrhœa, and were fast disappearing. Behind and to the left, on separating the folds of the anus, a fissure about two millimetres in length and one in depth, of a rosy color, was discovered. It was very distinctly seen on the child's protruding the anus in an effort of defecation. The anus was considerably constricted. The same treatment was adopted as in the first case. The fissure cicatrized completely in about ten days, all pain on the evacuation of the fæces disappearing.—(*London Lancet. Vol. IV. p.* 157. *London*, 1846. From the *Journal de Chirurgie. Année* 1846.)

The late and lamented Professor Velpeau rejected the idea of curing a true anal fissure with such a remedy as

rhatany. In remarks which he made within a year of his death, on "*The Affections of the Anal Region*," he says:—"Formerly all ulcerations of the anus were confounded under this name (*anal fissure*), and many practitioners still confound them. It was exactly in regard to this that M. Boyer made his essay, which has remained one of his remarkable works. He perfectly showed that it was necessary to distinguish on one side the *fissure*, properly so called,—that is to say, a crack sufficiently cleanly cut, a little indurated, ordinarily perpendicular to the sphincter; this is never cured without an operation, and all the ointments in the world can accomplish nothing."

"But on the other side, superficial excoriations also exist near the anus, having no particular characteristic; these are the ones M. Trousseau cures by rhatany; and in making use of this word *fissure* he has brought back to us the confusion of the times before Boyer, and against which I wish to guard you."—(*Lessons upon the Diagnosis and Treatment of Surgical Diseases, &c. Translated by W. C. B. Fifield, M.D. p.* 90. *Boston*, 1866.)

From the above it is evident that M. Velpeau did not consider that the cases which M. Trousseau treated as fissure of the anus were in reality that disease, but were mere excoriations of the anus, &c. In this, however, he has done M. Trousseau great injustice, as I will show. What, I ask, is a true *anal fissure?* I will let M. Velpeau himself answer the question. He says:—"Three essential symptoms characterize fissure at the anus; first, burning pains at the moment of passing the stools; second, a superficial, narrow, long ulcer, or sort of crevice, at the entrance of the intestine; and third, a violent and painful constriction of the sphincter."—(*Mott's Velpeau. Vol. III. p.* 1111. *New York*, 1847.)

Now let the reader refer to the two cases of M. Trousseau as presented above in full, which were treated successfully by the use of rhatany, and let him compare their descrip-

tion carefully with the description of anal fissure given by M. Velpeau himself, and he will find them to correspond exactly. If those two cases were not cases of true anal fissure, then, I ask, what constitutes a true anal fissure? I could, in addition to the two cases of children reported above, give a dozen cases of true anal fissure in adults successfully treated by M. Trousseau by the use of rhatany. These cases would be found to possess all the characteristics of genuine fissure according to M. Velpeau—namely, severe burning pains whilst stooling, or a short time afterwards; a long, narrow ulcer about the verge of the anus, and painful anal spasm.

These two pre-eminently great men of our profession, MM. Trousseau and Velpeau, have both lately, and within a short period of each other, rested from their earthly labors, and their works do follow them. These will remain as imperishable monuments of their genius and industry, and entitle them to a high and distinguished rank among the benefactors of mankind.

M. Marjolin treated a case of anal fissure successfully by the use of rhatany alone. Cabanellas (*Thése de Paris. No.* 132. *Année* 1826).

2. *Cauterization.* The indication contemplated by the use of the cautery, either in its potential or in its actual form, in the treatment of anal fissure, is to effect a change in the surface of the fissure or ulcer, and thus to convert it into an ordinary sore. The potential cautery has been employed in the treatment of this disease from an early day down to the present time, doubtless with more or less success. The treatment of Guido de Cauliaco and Dionis consisted chiefly in the scarification and cauterization of the fissure. The following articles as caustics have been, and are now, sometimes used in the treatment of this disease —Caustic potash, potassa cum calce, nitrate of silver, sulphate of copper, acid nitrate of mercury, the mineral acids, chloride of zinc, &c.

M. Jules Guérin, on the authority of M. Boyer, has the merit, if any, of first recommending and employing the actual cautery in the treatment of anal fissure in modern times. M. Boyer, however, very justly remarks that it cannot be employed without great inconvenience, except in those cases of fissure unattended by spasmodic contraction of the anal sphincters.—(*Op. cit. p.* 612.)

3. *Dilatation.* The object of employing dilatation of the sphincters of the anus in instances of anal fissure, accompanied by spasmodic contraction of one or both of these muscles, has already been explained in another place. It may be well, however, again to refer to the subject here. I have elsewhere shown that the spasmodic contraction of these muscles not only adds greatly to the pain of the fissure by compressing it, but that it more or less retards the healing of it,—hence the great importance of the distention of these spasmed muscles, which destroys or suspends, for a longer or shorter time, their contractility, without inflicting any permanent injury upon them, and completely relieves the fissure from their grasp and compression, and enables it, by proper applications, to cicatrize so much more rapidly.

The same object, it is true, is accomplished by the division of one or both of these muscles with the knife, but not without serious danger and great inconvenience. The same object is also partly attained by the anti-contractile property of belladonna.

Dilatation of the anus and inferior extremity of the rectum, except in organic or permanent stricture of the anus and rectum, was, so far as my reading extends, first alluded to by Ambrose Paré.—(*Loc. cit.*) In 1815 Mr. Copeland highly recommended it, and successfully employed it in the treatment of several cases of what he called spasmodic contraction of the sphincter ani muscle.—(*Loc. cit.*) A short time subsequently Mr. Gaitskell employed it with equal success in a similar case (*loc. cit.*), and in 1824 Mr. How-

ship also employed it successfully in a case of the same kind.—(*Loc. cit.*) These gentlemen denominated their cases, simple *painful spasm of the sphincter ani*, but, as I have elsewhere shown, they were without doubt all clear cases of anal fissure.

The principle of muscular distention and dilatation was, however, in 1838, most thoroughly investigated in a valuable paper on "*Extension, Shampooing, and Percussion, in the Treatment of Muscular Contractions*," by the able and ingenious M. Récamier, the then distinguished physician of the Hôtel Dieu of Paris. In this paper M. Récamier observes that the peculiar functions of all organs of the body may be disturbed, either directly or indirectly,—the deviations from health being in many cases dependent upon the state of an organ at a distance from the one which exhibits the morbid phenomena. The contractile functions of the muscles, involuntary as well as voluntary, not unfrequently exhibit the truth of this remark. M. Récamier closes this very interesting and instructing paper by declaring the following conclusions:—

First. It is necessary to discriminate those spasms or muscular contractions which are not dependent upon, or proceed from, an affection of the nervous system, but which constitute a direct lesion of the contractile functions of the voluntary or involuntary muscles themselves.

Second. In idiopathic muscular contractions, in wry-neck, in dyspnœa, in spasmodic colic, in spasms of the sphincters, etc., the use of extension, compression, and shampooing, and the application of the cupping-glasses (dry cupping), seem to be by far the most efficacious means of treatment.

Third. Hence it is scarcely ever necessary to have recourse to section of the contracted muscles in torticollis, or in contractions of the sphincter ani;] except in cases in which there exists an actual degeneration or a morbid change of structure in the part itself.

M. Récamier was consulted by a lady who had long suffered severely from a fissure of the anus, for which M. Boyer had divided the sphincters of the anus. The operation, however, did not prevent a relapse of the disease, and the patient continued to suffer dreadful pain in the rectum, especially when stooling. Dilatations of the sphincters and of the lower end of the rectum, by means of bougies gradually increased in size, ultimately succeeded in effecting a perfect cure in this interesting case.

This eminent physician reported several other cases of anal fissure, accompanied with painful constriction of the anus, and some of them complicated with hæmorrhoids, in which the use of gradual distention of the anus and anal canal was speedily followed by great relief, and finally by complete recovery. He adds that the operation of dividing the sphincters may be dispensed with in the majority of cases. —(*Revue Médicale de Paris. Janvier*, 1838.)

In the distention or dilatation of the anal sphincters, M. Récamier did not contemplate any rupture, laceration, or tearing of the mucous lining, or any of the muscular fibres of the intestine.

Turundæ, or Tents. Dilatation of the anal sphincters and rectum in this disease may be effected by the introduction into the canal of tents made of lint and gradually increased in size. The use of these kind of tents has been attended with the very best results in the hands of MM. Beclard (*Loc. cit.*), Dupuytren (*Loc. cit.*), Marjolin (*Loc. cit.*), and Velpeau (*Loc. cit.*). The objection, however, that is urged against this method of distention is, that it is sometimes tedious and painful; the pain, however, only attends the introduction of the first and second tent. The tent should be well besmeared with the butter of cacao, or saturated with glycerine, and if possible, suffered to remain in twelve or twenty-four hours; the patient in the mean time maintaining the recumbent or horizontal position.

Tents composed of such materials as become swollen and enlarged by warmth, or by the imbibition of moisture or fluids, might be used with advantage in the treatment of this disease. I employed the sponge tent in two cases with decided good effect, but it was attended with very severe pain. I consider it very certain and efficient. The second tent is generally sufficient, in ordinary cases, to produce adequate dilatation. The *gentianæ radix* may also be mentioned for this purpose. I, however, decidedly prefer the bougie I have already named, in all such cases.

Forcible Dilatation. I remember having seen a number of years ago, in some of the French Medical Journals, a statement of M. Maisonneuve, in which that distinguished surgeon recommended and employed with success forced and instantaneous dilatation of the anus and anal canal, as a remedy in fissure of the anus. He performed this operation by introducing his right hand through the anus and anal canal up into the pouch of the rectum, then firmly clenching it and forcibly withdrawing the fist. I recollect, at the time, I was *forcibly* struck with the novelty, the barbarity, as well as the repulsive nature of the proceeding. The operation met with no favor, and has since been justly consigned to oblivion. Subsequently, however, a modification of the operation of M. Maisonneuve was recommended, in which the two thumbs were to be substituted for the fist. I am unable to say who had the merit of introducing this modification of M. Maisonneuve's operation, more than that the very able and distinguished French surgeon, M. Nélaton, has practised it for a number of years, and is its advocate; having, it is said, employed it successfully in a number of cases.

The operation as performed by M. Nélaton, the patient always being under the influence of an anæsthetic, is as follows:—"The patient being conveniently placed, the two thumbs are introduced into the anus, and the tuberosities of the ischium serving as *points-d'appui* for the fingers, they are

separated until they come in contact with the internal face of the tuberosities. A resistance is felt, when suddenly there is a feeling of an internal rupture, and the two thumbs touch the bones. This is sufficient. There is no dressing necessary. When the patient recovers from the effects of the anæsthetic he has some pains, at times quite sharp, but it is not like the kind of pain he felt before, it is of a different character; when this pain is over, the patient does not suffer any more. It is sufficient during the first few days to administer enemata to facilitate the stools, and at the end of a week the patient can attend to all his occupations."—(*Clinical Lectures on Surgery. From Notes taken by W. F. Atlee, M.D. p.* 552. *Philadelphia*, 1855.)

Professor Van Buren is the advocate of *forcible dilatation* of the sphincter ani by means of the thumbs, as a prompt and sure remedy in anal fissure, as well as in some other diseases of the rectum. He prefers this method to, and substitutes it for that of M. Boyer, objecting to the latter merely because it is a cutting operation, and that patients dread the knife. The objections, however, to the process of M. Boyer are surely of a much more grave or serious nature than the patients' dread of the knife merely. Were the patient, however, to be made well acquainted with both operative procedures, and then consulted as to which he would choose, he might perhaps, with all his natural dread of cutting and of the knife, prefer the method of M. Boyer, of having all the fibres of the sphincter ani muscle divided with the knife, to the method of Dr. Van Buren, of having some of the fibres of this muscle torn and the remainder of them paralyzed by violent stretching with the thumbs. The question would simply be, whether the patient would prefer cutting with the knife, to tearing and paralyzing by forcible dilatation. Dr. Van Buren reports a number of cases he has cured by this process, without any bad results. —(*Loc. cit.*)

Those who approve and adopt this measure claim for it entire exemption from danger. I cannot, however, see why it should not be dangerous, as considerable violence is evidently done to the parts. Indeed the advocates themselves of this proceeding appear to be surprised that it should not be so; yet they tell us that no accidents have occurred in the cases upon which they have operated. They must all know, however, that this operation, which is effected by sheer manual force, can never be performed without more or less laceration, tearing or rupturing of the membranes and vessels of the anal canal. A considerable portion of the muscular fibres of the external sphincter, especially, are evidently torn or ruptured in this violent stretching process, as witnessed in the relaxed and flabby condition of this muscle, the complete inability of the patient to control it, and in the fact that if the finger immediately after is introduced into the anus, quite a gap is felt in the substance of it. Patients who have been subjected to this operation, without having been put under the influence of an anæsthetic, invariably state that it is attended with dreadful pain and a sense of tearing. The operator himself experiences a sensation of tearing, or giving way of something, and the hæmorrhage that immediately ensues is a positive evidence that a breach has been made.

The immediate consequences of the injury thus inflicted by this operation, upon the integrity of the mucous and muscular tissues of the canal, are increased irritation and inflammation, and subsequently permanent contractions, an additional source of mischief; for as the union of the torn portions proceeds, the cicatrices become firm and indurated and tend gradually to contract, whilst at the same time the inflammatory action existing in the surrounding parts produces their adhesion, and thus ultimately indurations are formed, involving the proper membranes of the canal in one common mass with the subjacent parts. Under such cir-

cumstances it would not be surprising if the patient should at some subsequent period find himself suffering from a firm and hard stricture of the anus or anal canal.

Furthermore the immediate and forcible distention, or the over-stretching of the external sphincter muscle in this operation, even without producing any laceration, might so far paralyze it, or impair its contractile power, that it might never afterwards be able to resume its function as a sphincter. Three instances of this character, caused by this operation, have fallen under my own observation within the last two years. Two were females, and one a male. They were all operated on by surgeons in this vicinity. I found, upon examination, that in each case the external sphincter was in a relaxed and flabby condition, having to a great extent lost its contractile power. In these cases, for some time after each fæcal dejection, small portions of fæces pass involuntarily from the anus, compelling the patients to wear a T-bandage and fold of rag, or to wash the parts frequently, in order to prevent soiling the linen. It is true that these persons still have the control of the internal sphincter, and it is fortunate for them that they have.

These are some of the objections I have to urge against this operation, and in my opinion they should be sufficient to condemn it, and to cause its rejection altogether; for if I believed that it was absolutely and essentially necessary that the whole or a part of the muscular fibres of the anal sphincters should be divided, in order to effect a cure of anal fissure, I would decidedly prefer dividing them with the knife, inasmuch as a simple incised wound is, for obvious reasons, far more preferable than a torn, mangled, and irregular one. This operation, so far as my knowledge extends, is principally confined to France, where it originated, and to our own country, in which it has been within a few years introduced. I believe it is neither adopted in England nor in Germany.

There would not be so serious an objection to this opera-

tion, if a smaller distending body than the two thumbs were used, and if the distending force was so controlled as to insure the membranes against laceration or rupture. I have myself on several occasions adopted a modification of it with most decided good results. Instead of the thumbs, I introduce into the anus the index finger of each hand, and forcibly dilate the contracted muscle, first, antero-posteriorly, and then laterally, at the same time taking great care to preserve the integrity of the membranes.

A few years ago, I saw an instrument called an anal dilator, which worked by a screw. It was invented and intended as a substitute for the thumbs in this operation. This instrument was ingeniously contrived, and beautiful to look at; but it is entirely too much of an *automatic machine;* it leaves no scope for the judgment of the operator. It is impossible by such an instrument to regulate the exact amount of dilatation necessary. The thumbs or the fingers as dilators are far preferable to this, as the operator, having the complete control of them, can regulate the force according to the effect.

It is remarkable what a great thirst there is among some surgeons of the present day for operating by new, novel, and extraordinary means—such as crushing, rupturing, lacerating, tearing, etc. One among our able professors of surgery, a short time since, made the remark to a friend that he had rejected the knife in all the surgical operations in which it was heretofore used, except in lithotomy. With him the *écraseur* is the instrument *par excellence.* By it he removes all tumors, all limbs, the uterus, the penis, the tongue, etc., and uses it in the operation for anal fistulæ, etc.

What will be the result of this *écrasement* furor, or of such surgery? or what will come next? are questions.

4. *Incision of the Mucous Membrane.* The incision of the mucous membrane alone, or including with it sometimes the

submucous cellular tissue, and even some of the muscular fibres, in the treatment of anal fissure, has been recommended by some eminent surgeons as a substitute in certain cases for complete division of the anal sphincters. This limited operation is infinitely preferable to that of M. Boyer, especially as it is said by some to fulfil every indication claimed for by his; as well as its being entirely free from the dangerous consequences so liable to follow his proceeding. According to the testimony of the late Sir Benjamin Brodie, Mr. Copeland was the first surgeon who, in anal fissure, advised simple incision of the mucous membrane in certain cases, instead of incision of the anal sphincters, as recommended by M. Boyer.—(*Op. cit. p.* 325.) Upon this subject Mr. Quain says: "It is now more than fourteen years ago, that being about to perform Boyer's operation upon a female in this hospital (University College Hospital, London), who was lying in bed, and not held with sufficient firmness, having suddenly moved away, I drew the bistoury through the ulcerated membrane only. It occurred to me at the moment to ascertain if that slight incision would be enough to relieve the patient. The success was complete; and from that period I have used no other operation in ordinary circumstances." In a note, Mr. Quain further remarks: "At the time I thought that this method had originated altogether with myself, but upon examining various books, with a view to be assured upon this point, I found in a lecture of Sir Benjamin Brodie's a remark which shows that in certain cases the modified operation had been previously performed by another surgeon."—(*Op. cit. p.* 175.)

I would here remark, that so far as priority is concerned with regard to this operation, I have elsewhere already shown that it, or a similar one, was practised and recommended by Albucasis and others of his time, and consequently is not a discovery or an invention of modern times. Mr. Copeland, however, has the merit of re-introducing

and reviving it, and especially as a complete substitute for the formidable and obnoxious operation of M. Boyer.

Mr. Curling is of opinion that the simple and superficial incision of the mucous membrane, as recommended by Mr. Copeland, is not sufficient to effect a cure in anal fissure. He says: "I am convinced that on this point Mr. Copeland is in error; at any rate this is not sufficient, and that, however slight and superficial the incision may be, a few at least of the fibres of the sphincter must be divided." —(*Op. cit. p.* 10.)

Mr. Henry Smith, speaking on this same subject, says: "Thanks to the suggestion of the late Mr. Copeland, surgeons, whilst recognizing the same principle as influenced Boyer, are content with making only a limited incision, so as to fairly cut through the ulcer, and only divide a portion of the fibres of the sphincter muscle. Some surgeons even suppose that it is not necessary to divide any of the fibres of the sphincter, and simply recommend an incision through the ulcer; but it must be borne in mind that a fair incision to the bottom of the ulcer will of necessity involve some portion of the sphincter. The rule I adopt and would recommend is to carry the incision to such an extent as will produce a sensible dilatation of the anal orifice. This is readily ascertained by introducing the finger after the operation. If the ulcer be fairly divided, and with it some of the fibres of the sphincter, the contraction of the lower part of the bowel will be much diminished when the finger is introduced, and this is a pretty certain indication that the necessary incision has been effected."—(*Op. cit. p.* 134.)

Believing as I do that an anal fissure never invades the muscular coat of the rectum, I am consequently of opinion, that even in the worst cases it is only necessary to incise the mucous membrane and submucous cellular tissue to effect all the relief claimed for by it, namely, removing the tension of the parts, and setting the mucous membrane at lib-

erty. I am fully convinced, however, that even this operation is unnecessary, inasmuch as the disease can most certainly be cured by proper topical applications, combined with suitable dilatation; but I decidedly prefer it to forcible dilatation with the thumbs, which is difficult, painful, dangerous, and in some instances impossible.

Modus Operandi. Previous to the performance of this operation the bowels should be emptied by an aperient, and the rectum afterwards well cleared out by an enema. The patient being placed on the left side, with the knees drawn up to the chin, the surgeon should introduce his left index finger, warmed and well lubricated, into the anus and anal canal, in the direction and beyond the upper end of the fissure. He should then introduce a straight probe-pointed bistoury flatwise, along and in front of the finger *in ano*, until the point has reached a little beyond the superior extremity of the fissure, when the bistoury should be turned round with its cutting edge against the ulcer. The incision is then to be commenced at this point, and carried through the fissure down to the external skin, care being taken in bringing down the bistoury not to cut so deep as to divide any of the fibres of the sphincter. The incision may be made either through the fissure, or in the immediate vicinity of it. After the incision has been made, a small pledget of lint besmeared with simple cerate may be pressed into the wound. It is best not to allow any action of the bowels for two or three days after the operation. This may be effected by the patient maintaining the horizontal posture, taking an enema of starch and laudanum, and strictly observing a milk diet.

Fig. 14.

This operation I have performed on several occasions with an instrument which I devised and which is represent-

ed by Fig. 14. This instrument is founded somewhat upon the principle of the *lythotome caché*, and consists of a straight narrow-bladed bistoury three inches and a half long, the blade of which is concealed by a guard having a deep slit in it, and which is easily adjusted to the blade, and rests upon two pivots, one on each side of the same. The distal extremity of the guard is blunt, and its proximal extremity terminates in a steel spring which rests upon the back of the handle of the blade. By pressing upon the handle of the bistoury when it is properly adjusted upon whatever is intended to be cut, a portion of the cutting edge of the blade leaves the slit of the guard, and is made to appear. This instrument, being small, is easily introduced into the canal without the finger. It should be warmed, well lubricated, and inserted into the canal in the direction of the fissure and a little beyond its superior extremity, with the slit in the guard facing the fissure or ulcer; then pressing upon the handle, the blade will appear, and the instrument thus drawn out will make the incision of the mucous membrane only, as the guard is so arranged that the blade cannot cut deeper than this tissue.

5. *Excision of the Fissure.* The operation of excising the fissure instead of dividing the anal sphincters, I believe was first proposed and executed by M. Velpeau. In this operation the integrity of the muscular coat is preserved, neither the muscle nor the muscular fibres being interfered with. M. Velpeau performed this operation in eight or ten cases, in two of which the fissure reappeared and was never cured. He, however, recommended, in very obstinate cases, the combination of the two methods—that is, both the division of the anal sphincters, and the excision or extirpation of the fissure or diseased part. Care should be taken, in performing the operation, to remove the whole affected portion.

The operation of excision of the fissure, as performed by M. Velpeau, is as follows: The patient being placed in the

same position as that for incision of the sphincters, the surgeon seizes with a tenaculum the point of the verge of the anus occupied by the fissure, and with a few strokes of the bistoury, on the right and the left, completes the excision of the fissured part. The scissors may be employed to remove the fissured or diseased part, but care must be taken to avoid cutting the muscular tissue beneath. The operation is soon done, and attended with but little pain. The wound requires to be dressed for three or four days, and the bowels prevented from acting, as recommended in the operation of simple incision of the mucous membrane. —(Demonge, *France Médicale*, *Tome I. p.* 46. Also *Mott's Velpeau*, *Vol. III. p.* 1115. *New York*, 1847.)

6. *Myotomy of the Anal Sphincters.* The merit of first recommending and executing the operation of dividing the anal sphincters, in fissure of the anus, is universally attributed to M. Boyer. I have elsewhere shown, however, that it was advised by Ambrose Paré. Be this as it may, M. Boyer was nevertheless the first surgeon who, in modern times, executed it, and gave it a status in surgery as a powerful remedy in anal fissure.

The operation, as I have elsewhere observed, is founded upon a mere hypothesis. The anal spasm for which the operation is advised is only a symptom, an effect, or a result of the fissure, which is the real disease. The operation being wrong in principle and most mischievous in practice, cannot therefore be approved of upon rational grounds. All treatment is irrational that is not directed to the morbid condition of the mucous membrane of the part, or that does not immediately tend to heal the fissure, the real disease. It must not be taken for granted that because the operation removes, for the time being, the muscular spasm, that this spasmodic contraction is the real disease or cause of it. At best the operation can only be of service as a temporary amelioration of the real disease.

M. Boyer considered this operation as an infallible remedy in the treatment of anal fissure, yet several most eminent surgeons have reported cases in which it has utterly failed. Among such are MM. Velpeau, Récamier, Beclard, etc. M. Velpeau says of this operation, that it compels us to cut through the deeper-seated tissues beyond the muscles. The wound which results always suppurates for some time, and may occasion dangerous accidents. The inflammation and formation of matter may extend to the pelvis, and compromise the patient's life. I have seen two cases, says he, in which the patients died after a division of the sphincter, for fissure of the anus.—(*Loc. cit.*)

Inflammation from this operation is liable to be produced, and extend to the loose cellular tissue immediately external to the muscular tissue; from this it may extend to the cellular tissue external to the peritonæum, and terminate in the destruction of the patient. In consequence of the peculiar anatomical structure of the parts in females, the operation is always hazardous. By this operation, too, the patient is often rendered permanently incapable of retaining either the intestinal gases or his stools, and they pass involuntarily. This truly would be a most deplorable condition to be left in, even if cured of the anal fissure. The operation, too, is by no means free from serious, if not fatal hæmorrhage. I therefore consider the operation unscientific in principle, as well as uncertain and unsafe in practice; but, for the benefit of those who may think and practise otherwise, I will give in full the *modus operandi* of it, together with a few modifications of it, and conclude with the observation, that to avoid the use of the knife, if possible, in the treatment of this disease, should be the rule of the well-educated and scientific surgeon, both in public and in private practice.

The Proceeding of M. Boyer. The preparatory steps of Boyer's operation are precisely the same as those for inci-

sion of the mucous membrane in the same disease. A day or two previous to the operation, the bowels should be emptied by means of a mild purgative, and on the day of the operation the rectum should be completely cleared out by an enema, in order to insure entire quietude for several days after. An injection of thin starch and laudanum should be administered immediately after the operation, and the patient should maintain the horizontal posture, and observe a milk or meagre diet, so that he may remain free from any fæcal evacuation for four or five days.

Fig. 15.

The instruments employed are a straight blunt-pointed bistoury, the blade two inches long and about one sixth of an inch wide (Fig. 15); a common bistoury, a large tent made of lint, a T-bandage, and all the minor accessories. The patient being placed on his left side, on the edge of a bed, with his head low, the under limb extended, the upper one flexed, and the nates widely separated by assistants, the surgeon, after anæsthesia is produced, should introduce the index finger of his left hand, well lubricated with cerate, into the rectum, and gliding along it the flat side of the blunt-pointed bistoury to a little beyond the superior end of the fissure, the cutting edge should then be turned towards the surface of the canal in the course of the fissure, if it be situated laterally, and the coats of the intestine, the anal sphincters, and the surrounding cellular tissue and integument should be divided by one stroke of the bistoury. A triangular wound is thus made, the summit of which answers to the intestine and the base to the skin. Should it be necessary to extend the external incision, as it sometimes is, it can be done by an additional stroke of the bistoury. In some instances the intestine slides before the edge

of the knife, and the wound of the cellular tissue is then larger than that of the intestine. Should this occur, it will then be necessary to re-introduce the bistoury, in order to prolong the wound of the intestine; or this may be accomplished by a blunt-pointed scissors. Should there be a fissure on each side, or should there be excessive spasmodic contraction of the sphincter or sphincters of the anus, both sides must be incised alike. The incision should always be made through the fissure, provided it is located on one or the other side; but if it is situated in front or behind, the incision of the side is quite sufficient. No operation of the kind should ever be made either anteriorly or posteriorly, because the anal sphincters can neither be safely nor completely divided at either of these points, on account of the shortness of the space between the coccyx and the verge of the anus, the proximity of the bulb of the urethra in the male and the shortness of the perinæum in the female. Another serious objection to the performance of this operation in the median line, is the great difficulty in healing wounds in this situation, in consequence of the friction created by the motion of the extremities.

Should the edges of the fissure be hard and elevated, they should be seized with a forceps and removed. Should hæmorrhage occur, the usual measures for arresting it must be promptly put into practice. The dressing of the wound is very simple. Dossils of lint covered with cerate should be placed between the lips of the wound, and extend about an inch beyond the superior angle of the incision. The space between the nates should be filled with lint, and the whole supported by a compress and a T-bandage. In four or five days the dressing should be carefully removed, and after that it should be daily renewed until cicatrization takes place. The wound is generally cicatrized in about one month or six weeks; sometimes, however, the healing is not effected under two or three months.

I would observe here that M. Boyer did not consider it essentially necessary to the success of the operation that the incision should be made immediately through the fissure.—(*Loc. cit.*) M. Velpeau, however, thought differently. He says: "Should the fissure occupy the median line in front, the surgeon must not cut upwards, for fear of injuring the urethra or the vagina. Boyer thought it sufficient to divide the sphincter at any point without caring where the fissure may be located; but I am of opinion that the surgeon will do well to pass the blade of the bistoury through the fissure at the same time that the muscle is divided."—(*Loc. cit.*)

The Proceeding of Boyer as modified by Blandin. To avoid the dangers, uncertainties, and the inconveniences of Boyer's operation, M. Blandin devised, executed, and recommended a modification of it, consisting of the submucous and subcutaneous section of the sphincter ani. Blandin's operation is very ingenious; it is simple, and far less formidable and repulsive to the feelings of the patient, and certainly, in a practical point of view, attended with much less risk. The relief is as instantaneous as it is by Boyer's operation, and no large open wound is left in the intestine, the intestinal membrane and integument being entire. Defecation can therefore be performed without the same amount of irritation; and the cure is materially expedited, inasmuch as the parts are not kept in a state of disunion longer than is necessary for its completion.

In this operation the same preliminary treatment with regard to unloading the bowels is as necessary as in that of Boyer, and the precautions concerning the impropriety of incising directly forwards in the female, or directly backwards in either sex, are equally applicable to both methods of operating. The instrument employed for operating by the method of Blandin consists of a sharp-pointed straight-bladed bistoury, with a flat sliding guard upon one side of

it. This guard is rounded at the extremity, oval externally, and flat upon the surface lying on the blade. It is compressed against the side of the knife by means of a spring, and retained in its position by a slightly projecting pin, sliding in a groove upon the blade. The whole, or a portion, of the guard can be retracted within the handle by a button attached to it for that purpose. This instrument, a little simplified and improved by myself, is represented by Fig. 16.

Fig. 16.

The patient being placed in the proper position, a small puncture with the point of the bistoury is then to be made in the skin, at the distance of from eight to ten lines from the verge of the anus. The index-finger of the left hand is now to be introduced into the rectum, in order to keep the mucous membrane tense, at the same time the skin on each side of the anus being well stretched by an assistant. The guard is protruded beyond the point of the blade, and the *tenotome* is then carefully introduced through the wound and passed up between the mucous membrane and the sphincter to the requisite height. The cutting edge is then turned towards the sphincter, the guard retracted, and the muscle cut through as the blade is withdrawn. As soon as the section of it is made, the finger in the rectum feels the solution of continuity between the divided portions of the muscle, which is preceded by a peculiar noise—"*une espèce de craquement.*" If any doubt remains as to whether the muscle is completely divided or not, the tenotome, guarded as before, may be reintroduced, and a second incision made in a similar manner, exactly upon the first. The small external wound should then be closed. The after-dressings should consist either of lint covered with simple cerate, or

lint wet with a cooling lotion, or simply cold water. The bowels should be kept in a relaxed state by mild purgatives, or by enemata alone. A double submucous section of the sphincter may be made if necessary,—one on each side.

M. Blandin has performed this operation with complete success in several cases of anal fissure. M. Marchal (de Calvi) also performed the same operation on a man suffering from cancer of the rectum, attended with painful spasmodic contraction of the anus. This patient suffered intense agony after each evacuation of the bowels. The operation at once afforded great relief.—(*Archives Générales de Médecine de Paris, Avril*, 1846.)

The Proceeding of Boyer as modified by Dr. Hayward.—The late and lamented Dr. Hayward of Boston, late surgeon to the Massachusetts General Hospital, was of opinion that no treatment short of Boyer's operation of the division of the anal sphincters would be effectual in relieving anal fissure. He reports a successful case of fissure of the anus in which he divided the muscles from *without inwards*, instead of from *within outwards*, as in the operation for complete fistula in ano. This he considered the best method. A part of this case he relates as follows:—"On examination, I found just within the margin of the anus, towards the sacrum, a narrow ulcer an inch or more in length, quite tender and painful to the touch. The bowels having been emptied by an enema, the operation was performed in the following way: The forefinger of the left hand having been introduced into the rectum, a spear-pointed scalpel was thrust in outside of the sphincter till it reached the point of the finger, thus including the sphincter between the edge of the scalpel and the finger. Both were then simultaneously withdrawn, the scalpel cutting its way out through the fissure. Lint was introduced between the lips of the wound, and a compress and a T-bandage completed the dressing. For two or three days he had slight spasms about the anus, which were re-

lieved by anodyne fomentations. But after this period he had no trouble; his dejections gave him no pain, though the ulcer was not healed, and he was discharged from the Hospital "well" in fourteen days after the operation, in all respects able to resume his ordinary avocations."—(*Report of the Surgical Cases that occurred in the Massachusetts General Hospital from* 12*th May*, 1837, *to* 12*th May*, 1838.)

CHAPTER SIXTH.

CONCLUSION.

CHAPTER VI.

CONCLUSION.

Section I.—Illustrative Cases.

The following cases of anal fissure, selected promiscuously from my case-book out of a large number collected during a practice of thirty years, will illustrate the several phases, as well as the complications under which this disease generally presents itself:

Case I.—*Anal fissure of nine months' standing, caused by obstinate constipation of the bowels, and the continued use of drastic purgatives.*

On the 11th of September, 1840, Miss S. T———, of Jessamine county, Kentucky, æt. twenty-six, a very delicate lady of a nervous temperament, consulted me for a disease she had suffered from for nine months, and which her physician, who had frequently examined her, pronounced to be constipation and internal piles, caused by torpor of the liver. To relieve the torpor and the constipation, he was in the habit of giving her an active cathartic about twice a week for a long time. She could only tell me the name of one of the several kinds of drastic purgatives she had been taking, and that was "*Cook's Pills*," a quite common medicine of that day, composed of equal parts of aloes, rhubarb, and calomel. She gradually grew worse under this active treatment, which seemed to have changed the character of the disease altogether—so much so, that she finally determined to abandon both the treatment and the doctor.

She informed me that for the last three months she had

suffered the most intense burning and lancinating pains in the anus whilst stooling, and for three or four hours after, often attended with most violent spasms of the sphincter ani. All these symptoms were much aggravated during menstruation, which was generally quite normal. She had a great dread of stooling, and to avoid it as much as possible, she would almost starve herself, so that she had become quite emaciated. The stools, when hard, were generally streaked with mucus tinged with blood; and when soft, were figured and of small size.

Upon making an examination, by divaricating the nates, I observed on the left side of the anus a lineal ulcer commencing at the verge of the anus, and extending up into the canal about three-fourths of an inch. This crevice was so deep as to extend through the mucous membrane; it presented a bright red appearance, and its edges were hard and elevated. I could not insert my finger into the anus in consequence of the rigidity of the sphincter, and the severe pain occasioned by pressing on and separating the lips of the fissure. To overcome the spasmodic contraction of the sphincter, I administered as an enema one ounce and a half of an infusion of belladonna, and two hours after repeated the same; in the meantime the anus was well fomented with cloths wrung out of hot water. The infusion was prepared as follows:

Recipe, Belladonnæ Radicis, drachmam,
Aquæ bullientis, uncias sex.
Misce et fiat infusum, macerando horam integram: dein cola.

By these measures I was enabled in about four hours to introduce my finger into the rectum with ease, and with scarcely any pain, as well as a bougie much larger than the finger.

This patient was kept in the horizontal position; took a mild tonic; her diet was chiefly animal broths, rice, arrow-root, etc.; no cathartic medicine whatever was given, her

bowels being entirely relieved every alternate day by an enema composed of the infusion of linseed and castor oil. The edges of the fissure were touched with the solid nitrate of silver on the days on which the bowels were not evacuated, and immediately after each application a small pledget of lint besmeared with the simple ointment of belladonna was inserted. The first application caused very severe pain, which continued for three or four hours. The two following applications were not so severe. The solution of the salt was now substituted for the caustic in its solid form. It was applied to the fissure every day, and the bougie was used immediately after. At the end of the second week an evacuation took place daily, always preceded, however, by the enema; about two hours after which, the application would be made, and the bougie inserted for a moment. Under this treatment the fissure completely cicatrized in four weeks. This patient returned home completely relieved of the fissure and the constipation.

CASE II.—*The lady referred to in the following communication was successfully treated by me for an anal fissure, complicated with hæmorrhoids, six months after the date of the letter.*

"———, Ky., September 8th, 1841.

"DR. BODENHAMER:

"DEAR SIR—My wife is afflicted with a serious disease of the lower bowel, for which she has taken much medicine from several physicians, without any permanent good effect. Indeed, they do not appear to understand her disease. Her physicians all have advised her to consult Dr. D——, believing that some surgical operation might perhaps be necessary. We have come to the conclusion, before taking this step, to consult you; and if you think that you can cure her, we will visit you as soon as we get your answer to this. For several years my wife labored

under costive bowels, for the relief of which she was compelled, from time to time, to take active purgative medicine. About seven months ago, one day after she had taken a large dose of Cook's Pills, which operated severely, she was taken with such a burning pain while at stool, that she nearly fainted. Ever since, whenever she stools, and for hours after, she suffers the most agonizing pain. These pains extend to her back and down her lower extremities, and sometimes so affect her bladder that she cannot urinate without great difficulty. Her discharges from her bowels are frequently mixed with blood and matter; and when she has these discharges, the burning is just like hot lead passing down her bowels, as she describes it. She is nearly all the time confined to her bed, a mere skeleton, and so nervous at times that we can scarcely do anything with her. Such is the dread she has of an operation on her bowels, that she frequently sheds tears for an hour or two previous. She has no cough, and her digestion is good; and if she were relieved of this horrid disease, she would, I think, be well otherwise. Some of her physicians call her disease fistula, and others piles. She has had three children, the youngest two years old, and her age is thirty."

On making an examination of this case, I found on each side of the anal canal posteriorly, a hæmorrhoidal tumor about the size of a hazel-nut, which I caused the patient to protrude as much as possible, when I detected a long narrow ulcer between the two tumors at the posterior verge of the anus, and extending into the canal about two-thirds of an inch. Its edges were thick and hard, and its surface florid, and bled freely when touched with the probe. The attempt to introduce the finger gave excessive pain, and brought on a violent spasmodic contraction of the sphincter.

This lady continued to maintain the horizontal posture; took as a tonic the muriated tincture of iron and the cold infusion of wild-cherry bark; lived on nutritious broths,

jellies, etc.; and relieved her bowels entirely by emollient enemata. The fissure was touched several times with the solid nitrate of silver, afterwards the solution of the same was substituted. The bougie was also frequently used. After pursuing this course for two weeks, and the fissure having greatly improved, the hæmorrhoidal tumors were then removed by ligature, and the cure completed in two months from the commencement of the treatment.

CASE III.—*Anal fissure complicated with a small blind internal fistula. The patient had been treated several months for irritable piles, the true nature of the case not having been understood by the medical attendants.*

On the 10th of October, 1844, I was called to see Mr. S. P. W——, a commission merchant of Louisville, Ky., æt. 45, of a bilious and nervous temperament. This gentleman, for several months previous to consulting me, suffered the most violent and agonizing pain in the anus after each evacuation of the bowels; the pain coming on regularly from within thirty minutes to an hour after each stool, and continuing from eight to twelve hours, when it would gradually, and sometimes suddenly, cease. Such was Mr. W——'s sufferings, that after having an evacuation of his bowels in the morning, he was compelled to remain on his couch all day; and the only time that he could be up and attend to business at all, was in the morning, an hour or two before stooling.

From the commencement of his illness, Mr. W. had submitted to both medical and surgical treatment; one or two hæmorrhoidal excrescences at the verge of the anus had been removed, with, however, no mitigation whatever of the usual and regular pain. The primary disease having been mistaken for hæmorrhoids, was entirely overlooked by his medical attendants. Mr. W. informed me that some considerable time previous to the commencement of his present suffering, he suffered from indigestion and obstinate consti-

pation of the bowels, for the alleviation of which he had taken large quantities of drastic purgative medicine, and also various tonics, etc.

On examining the anus externally, I saw the remains of the principal anal excrescence which had been removed, situated on the posterior margin of the anus, on the left side. By making firm pressure with the finger on this part, great pain was experienced, and violent anal spasm was induced. I also noticed that the pressure caused a slight oozing out of pus at this point. Such were the pain and the rigidity of the sphincter, that the attempts to evert the anus, or to introduce the finger, were fruitless; consequently I administered an enema of warm flax-seed tea and castor oil, and completely emptied the rectum, and applied to the anus cloths wrung out of hot water for one hour, after which I succeeded, although attended with considerable pain, in inserting my finger up to the second joint, and sensibly felt a fissure running up the canal from the tender point already noticed. After withdrawing the finger, I carefully introduced a small speculum ani, which completely revealed the whole extent of the fissure, which was nearly one inch in length, from the centre of which I discovered a small orifice from which issued a little matter. By using a hooked probe I discovered that the orifice communicated with a small fistulous cavity—quite superficial, however. The cause of Mr. W——'s suffering was now clearly explained. The fistula, doubtless, was caused by the fissure.

The treatment consisted of enemata composed of the infusion of flax-seed and castor oil, to relieve the bowels; the daily application to the fissure of the solution of nitrate of silver; and the frequent touching of the bottom of the fistulous cavity with the end of the bent probe, previously thickly coated by being dipped in the fused nitrate of silver. By this treatment this gentleman was completely cured in five weeks from its commencement.

CASE IV.—*The author of the following letter, three months after its date, was cured by me of an anal fissure of an aggravated character.*

"C———, Ohio, June 5th, 1845.

"DR. BODENHAMER:

"DEAR SIR—Having heard that you have been successful in treating diseases of the lower bowel, I have taken the liberty of writing you. I have been suffering almost martyrdom for the last year, from a most troublesome and distressing affection of my lower bowel. I experience the greatest suffering while I am stooling, and then it is often so severe that I am compelled to lie down for several hours. At these times the burning and smarting are so severe, that it appears to me it could not be any worse if a red-hot iron was run into the bowel. I have such a horror of stooling, that I only have a passage every forty-eight hours, at night, so that I do not lose so much time in the day, by lying down. I use Blue Lick water to keep my bowels loose. The sore place is on the right side of the anus, communicating low down, and extending up about an inch. I can feel it quite distinctly with my finger, the introduction of which, however, causes the most intense pain. The only discharge I have noticed from the place, is a little matter streaked with blood. I have no doubt this disease was caused by obstinate constipation, under which I labored for years, and for which I have taken large quantities of purgative medicines.

"The disease did not come on suddenly, but gradually. I am thirty-one years of age, my health good in other respects, and I am by profession a lawyer. You will now doubtless wonder what I did for my complaint. I have done everything. I have consulted the best medical men of your profession, and they all have disagreed with regard to my disease, some calling it internal fistula, some piles, some neuralgia, and some ulceration. About six months ago I sub-

mitted to the operation of laying all the parts open with the knife, by Dr. ——— of ———. This operation afforded me partial relief for about six weeks; but I am now about as bad as ever. I have lost all hope, and almost despair of ever being cured. I would much rather be dead than be compelled to live in this condition. Can you cure me? Can you give me any relief?"

This gentleman visited me at Louisville, Ky., on the 25th of June, 1845; and upon making an examination of the anus, nothing was visible but a large condyloma situated on the verge of the anus, on the right side posteriorly. This excrescence formed the base, and concealed the inferior extremity of a fissure a quarter of an inch wide, and extending up the canal fully one inch. By everting the anus, almost the whole of the fissure was brought into view; its surface was discovered to be smooth and florid, and its edges were raised and hard. The division of both sphincters of the anus, to which he had submitted, was not made through the fissure, but on the side in its immediate vicinity. The incision was but partially cicatrized.

By the use of the nitrate of silver, the employment of the bougie, and the removal of the condyloma with the scissors, the cure was completed in eight weeks.

CASE V.—*Anal fissure in a little boy three years old who had obstinate constipation of the bowels, the result of inactivity of the liver induced by intermittent fever. Hypertrophy of the spleen.*

On the 8th of May, 1847, I was called to see Edward S——, of Louisville, Ky., æt. three years and two months, a very delicate, nervous, and excitable little boy. He was emaciated, had torpid liver, no appetite, skin dry and sallow, and obstinate constipation of the bowels. The little patient the year previous had an attack of intermittent fever, which lasted for several weeks, and has now decided

hypertrophy of the spleen, which is very apparent through the anterior abdominal wall. Suffers severe pain at each evacuation of the bowels, and for a short time after, as manifested by his sharp cries, and the strong tendency to convulsions. His stools are scybalous, and always followed by five or six drops of florid blood.

On making the examination of the anal region, I found the anus spasmodically contracted, and upon widely separating the nates and the sides of the anus, I distinctly saw, at its verge, on the right side posteriorly, the inferior extremity of a rent having the appearance of a red line, and observing a vertical direction, which upon close inspection proved to be a superficial fissure of the mucous membrane. This crevice was doubtless the result of a laceration induced by the passage of scybala.

The little patient's bowels were daily relieved by emollient enemata, and an occasional dose of castor-oil. He took as an alterative tonic the third of a teaspoonful, three times daily, of the following mixture:

Recipe, Syrupi Sarsaparillæ compositi, uncias octo,
Ferri Sulphatis, grana duodecim,
Tincturæ Cinchonæ, unciam.
Fiat Mistura.

The fissure was touched once daily with the nitrate of silver in solution, applied with the probe. By this treatment the fissure was completely cicatrized in ten days, and at the end of two months the little boy was almost entirely restored to his wonted health.

Case VI.—*Anal fissure complicated with fistula in ano, spermatorrhœa, and ascarides of the rectum.*

Mr. W. S. T——, of Greencastle, Indiana, æt. 32, of a nervous temperament, visited and consulted me at Louisville, Ky., on the 16th of June, 1847. Mr. T. informed me that for three or four years he suffered from indigestion

constipation of the bowels, intolerable itching of the anus, especially at night, and frequent nocturnal emissions of semen. His stools were small and hard like marbles, and covered with an inspissated mucus, like skin. For the last three months he says that whenever he has an evacuation of his bowels, and for several hours after, he suffers the most severe and agonizing pain in the anus and anal region, and often accompanied by a violent and painful closure of the anus; and that within the last six weeks an abscess formed on the left side of the anus, which was lanced by his medical attendant, and lately pronounced to be a complete fistula in ano.

This patient, from this complication of diseases, was very much emaciated, sallow, highly nervous and excitable, as any one can well imagine. Upon examination, I observed on the left side of the anus the external orifice of a fistulous sinus about half an inch from the verge of the anus, which communicated with the bowel between the two sphincters. In attempting to introduce my finger into the anus and anal canal, in order to search for the end of the probe which was in the sinus, it encountered considerable difficulty from the firm contraction of the sphincter muscle; and was attended by severe pain. By withdrawing the finger and everting the anus, I detected a small superficial ulcer in the form of a fissure at the anterior commissure of the anus, commencing immediately within the anal orifice, and extending up about two-thirds of an inch. This patient took as a tonic the muriated tincture of iron; regulated his bowels by mild cathartics and emollient enemata. The fissure and the anal spasm were treated by the nitrate of silver and the bougie. The anal fistula was treated by the use of the ligature. Mr. T.'s health at the beginning commenced improving slowly but decidedly, and at the end of three months I discharged him cured. I would observe that in the early part of the treatment of this case, for the purpose of removing the

chronic irritation and inflammation of the mucous membrane of the inferior extremity of the rectum, I ordered the patient to inject two tablespoonfuls of the following mixture immediately after each fæcal dejection, and if possible to be retained:—

Recipe, Balsami Copaibæ,
Tincturæ Opii, ana, drachmam,
Creasotis, semidrachmam,
Pulveris Acaciæ, semiunciam,
Aquæ destillatæ, uncias octo.
Fiat mistura secundum artem.

About two hours after the injection of the first dose of this mixture, the patient felt so strong a desire to stool that he could not resist it, and he passed into the chamber without effort three balls of what he thought were fæcal matter, but upon inspection he found them entirely composed of small worms and mucus. He at once called my attention to the circumstance, and upon examining the contents of the vessel I found them as he had described. The worms were the maw or thread-worm,—*Oxyuris vermicularis* of Bremser, or the *Ascaris vermicularis*. These worms are generally found *en troupe* in the rectum, and so covered with mucus as not to be easily accessible by anthelmintics. In this instance the creasote in the injection was doubtless the principal agent in effecting their dislodgment. When counted by the patient, he found they numbered three hundred and fifty-four.

The continued excitement and irritation of the mucous membrane of the rectum produced by the presence of these worms in this case, were doubtless the cause of the spermatorrhœa, and may have been the predisposing cause of the fissure and the fistula.

CASE VII. *Anal fissure complicated with a blind internal fistula.*

Mr. G. B. W———, a merchant of Buffalo, N. Y., æt.

fifty-eight, of a bilious and nervous temperament, visited and consulted me at Louisville, Ky., on the 9th of May, 1849. He informed me that for six or seven months he has suffered the most severe burning pain in the anus, commencing a short time after each evacuation of his bowels, and continuing for several hours without intermission, and then entirely subsiding until the next movement of his bowels. These paroxysms of pain were often attended with violent spasmodic contraction of the anus. His bowels were naturally inclined to constipation, and often required the most active purgative to move them. He has noticed of late a slight but constant discharge of a thin matter from the anus, sufficient to soil his linen; sometimes this matter was mixed with blood and mucus.

Mr. W.'s general health is poor; he is quite emaciated, is easily fatigued, and suffers much from weakness of the back and lower extremities, especially for a few hours after evacuating his bowels, when it amounts almost to complete prostration.

This gentleman had been treated for ulceration of the rectum by caustic applications, and a solution of the nitrate of silver was used as an injection, with, however, no permanent benefit. Upon making an examination of the anus, I discovered a condyloma about as large as a common size pea, situated on the verge of the anus, on the right side towards the front. Pressure upon this part detected considerable hardness for some distance round, caused much pain, and a discharge of pus from the anus. By the straining efforts of the patient, and the everting or prolapsing of the anus with the fingers, a fissure was plainly visible, commencing a little above the condyloma, and extending up the bowel three-fourths of an inch. It was about the eighth of an inch wide, with hard and everted edges, and a red, soft, and spongy bottom, from which some pus was seen to be issuing. This discharge of pus and the external hardness

were plain indications of a blind internal fistula. By means of a bent probe, I at once found the orifice of the fistula just in the track of the fissure, and near its superior extremity. I gave a flexible probe the proper curve, and through the orifice of the fistula conducted it from above downwards and outwards, until the end could be distinctly felt through the external integument, about half an inch below the condyloma. At this point I made an incision upon the end of the probe into the fistulous cul-de-sac, and thus converted the blind and incomplete, into the complete fistula. The diagnosis was plain. The fistula in this instance was doubtless the result of the fissure.

This gentleman took tonics, regulated his liver and bowels by diet, emollient enemata, and occasional aperients Daily applications of the nitrate of silver were made to the fissure until the acute sensibility and the severe pain had subsided, when a ligature was introduced into the fistula and daily tightened until it came out, leaving but a small portion of the fissure and fistula to cicatrize, which soon after took place. He was dismissed cured on the 25th day of June, just forty-six days after the treatment had been commenced. This patient was not confined for one moment to either his room or his bed by the treatment.

CASE VIII.—*Highly irritable ulcer, situated in the fossa between the external and internal sphincter of the anus.*

Colonel J. W——, of Woodford county, Kentucky, æt. sixty-seven, of phlegmatic temperament, consulted me at New Orleans, Louisiana, on the sixth of April, 1850, for what he called a painful affection of the lower bowel. The Colonel informed me that for more than a year he has been suffering most severely from a burning, throbbing, and bearing-down pain, seemingly but a short distance above the end of the bowel. The pain would come on either whilst at stool or in a short time after, and continue for several

hours, often extending to the neck of the bladder, and causing more or less stoppage of urine, and always attended by a slight purulent discharge from the anus, quite sufficient to soil his linen daily. His digestion and appetite are good, and his bowels are regular, but from having been robust and healthy at his time of life, this painful affection has reduced him greatly in flesh, and rendered him feeble, highly nervous, and excitable.

The rectum having been thoroughly emptied by a proper enema, and there being no spasmodic contraction of the sphincter ani, the exploration was made by the finger and the speculum with ease and with but little pain. The finger *in ano* soon detected a large, deep, and highly sensitive ulcer, situated on the anterior wall of the anal canal, between the external and internal sphincter of the anus. The sensation communicated to the finger was that of having entered a considerable excavation, with a hard and rough brim, and a deep and soft bottom. Upon the introduction of the speculum this ulcer was fairly brought into view. It proved to be of an oblong shape and somewhat larger than a silver ten-cent piece; it was of an ash color, and its bottom was soft and spongy, and covered with a tenacious matter.

The ulcer was cauterized every fifth day with the solid nitrate of silver, and in the mean time the bowels were daily moved by emollient enemata. Two tablespoonfuls of the balsamic mixture mentioned in Case VI. (page 161) was injected into the rectum twice daily, first in the morning, after stooling and dressing the ulcer, again at night, just before retiring. During the treatment the Colonel was allowed a nourishing diet, and the liberal use of good sherry.

By pursuing this course for six weeks the ulcer was cicatrized, the pains had all ceased, and the Colonel had greatly improved in flesh, in strength, and in spirits.

CASE IX.—*Irritable ulcer of the rectum simulating uterine disease, and a large accumulation of hard and impacted fæces in the left colon, simulating a tumor in that region.*

Mrs. J. D———, of Oldham county, Kentucky, æt. thirty-seven, of a nervous and bilious temperament, and mother of one child, consulted me on the 23d of May, 1850. She stated that she had been treated a long time for a uterine disease, without, however, any mitigation of her sufferings. She also informed me that she suffered from indigestion, and sometimes from great irritability of the stomach; that her bowels were obstinately constipated, often not having an alvine evacuation for five or six days, and then passing with great pain and much difficulty only a few dry and hard balls of fæcal matter. In about thirty minutes after such an evacuation she commences to experience a most intense pain in the anus, often extending into the pelvis, and especially to the neck of the bladder, causing *ardor urinæ*, and continuing for eight or ten hours, during which she is compelled to maintain the horizontal posture. No anal spasm. Mrs. D. also called my attention to an enlargement of the abdomen, low down on the left side, which had existed for three or four months, and which she said had been pronounced an internal tumor by her physician. Upon making an examination of the region indicated, I distinctly felt at the sigmoid flexure of the colon a nodulated tumor about the size of my fist, dull upon percussion, and the parts tender upon pressure. The left colon could be felt through the abdominal walls, distended with fæces. My opinion therefore was that the tumor was a mass of indurated fæcal matter, accumulated in the left colon; and to test the correctness or not of this diagnosis, as well as to prepare the patient for the exploration of the rectum, I prescribed the following stimulating cathartic:—

Recipe, Olei Ricini,
—— Terebinthinæ, ana, drachmas quatuor.
Misce.

In five hours after taking this cathartic she had a considerable evacuation of fæcal matter from the bowels, but with no perceptible diminution, however, of the enlargement in the left side. I then administered the following valuable enema, recommended by Mr. O'Bernie in such cases, through an O'Bernie tube, introduced into the sigmoid flexure of the colon:—

Recipe, Tincturæ Assafœtidæ, drachmas duas,
Olei Olivæ,
Magnesia Sulphatis, ana, uncias duas,
Olei Terebinthinæ, unciam,
Infusionis Seminum Lini tepidæ, octarium.
Misce et fiat enema secundum artem.

In fifteen minutes after the administration of this enema she commenced to discharge large quantities of fæcal matter, attended by much pain, vomiting, and prostration, so much so that anodynes, stimulants, and a bandage round the abdomen had to be resorted to. After a few hours, however, she rallied and became quite easy. On making an examination I found the tumor in the sigmoid flexure had disappeared, and upon introducing my finger nearly up to the second joint into the anus, which was quite relaxed, I distinctly felt an ulcer, situated anteriorly in the middle region of the anal canal. On inspection by means of the speculum I observed a slightly excavated ulcer, of an oval form and about one-fourth of an inch in diameter, with hard and raised edges, soft bottom, and of a grayish appearance, and exquisitely painful to the touch or pressure.

The fissure was treated by the frequent application of the solid nitrate of silver, and the introduction of the following ointment on tents or pledgets of lint:—

Recipe, Pulveris Rhei, grana decem,
——— Opii, grana quinque,
Cerati simplicis, unciam et semissem.
Misce et fiat unguentum.

The bowels were relieved by aperients and enemata, and

she took a tonic. She was dismissed cured in two months. The ulcer accounted for all her sufferings; although not in the form of fissure, and unattended by anal spasm, it was nevertheless exquisitely irritable and painful.

CASE X.—*Anal fissure in an infant ten months old. Dentition. Persistent diarrhœa, and procidentia ani.*

On the 10th of April, 1852, I was called to see Harriet T———, of New Orleans, an infant at the breast, æt. ten months. This child was suffering from dentition, and much debilitated by a diarrhœa, which I was informed had persisted for a considerable length of time, and which resulted in an obstinate *procidentia ani.* By the application of powerful astringents by the attending physician, Dr. P———, the prolapsus rapidly disappeared; but ever since the disappearance of the protrusion, whenever the child makes efforts to relieve its bowels, it cries, screams, and struggles as if suffering terrible pain. These manifestations of suffering only last while the child is stooling; immediately after, it is as quiet and as calm as if nothing painful had occurred. A few drops of blood follow each evacuation from the bowels. Dr. P. was of opinion that the diarrhœa was becoming dysenteric in character, and that it was the tenesmus of dysentery that caused the cries of the child during defecation. I dissented from this opinion, and suggested that an anal fissure might be the cause of these manifestations; that by the use of the active astringents, the anal orifice was constantly kept in a firmly contracted and unyielding state, so that at some time when the child was making powerful efforts to extrude the fæces, as well as the former prolapsus, a rent in the mucous membrane at some point may have taken place. Dr. P. observed that my suggestions were plausible and worthy of consideration, but that he had never heard of an infant having an anal fissure. I proposed to him to make the examination, which he at once proceeded to do in the pro-

per manner; and we soon discovered a very superficial, yet very distinct fissure, marked by a faint red line at the posterior part of the anal orifice, on the right side. Whilst separating the orifice with the fingers, a little thin, bloody exudation took place from the posterior commissure of the anus.

The child took one teaspoonful of the following preparation four times daily:—

Recipe, Aquæ Calcis,
Lactis recentis, ana, unciam.
Misce.

The local treatment consisted of a few applications to the fissure of the nitrate of silver in solution, by means of the probe, the frequent application of cacao butter, and the daily use of enemata of the infusion of linseed. The cure was completed in ten days.

Case XI.—*Anal fissure previously diagnosed and treated by different physicians, severally as neuralgia of the inferior extremity of the rectum, internal piles, and constipation.*

Mr. L. F———, a hardware merchant of New Orleans, La., æt. forty-three, of a lymphatico-nervous temperament, consulted me January 2d, 1853, for what he called a serious and painful disease at the end of the bowel. He stated that for two or three months past he had been suffering the most agonizing pain at the end of the intestine, brought on and aggravated by each movement of his bowels. The pain is of that intense burning character as if a live coal of fire were in the bowel, and always accompanied sooner or later by violent spasm of the anus. The pain sometimes comes on in the act of defecation, at other times it, together with the spasmodic contraction, comes on half an hour or one hour after stooling, and continues for four or five hours, when it suddenly subsides. During the pain the patient says he is compelled to remain in the horizontal posture.

A short time previous to the commencement of these anal pains, Mr. F. had a severe bilious attack and took a large quantity of drastic purgative medicine, the violent action of which he belives gave rise to them, or at least had something to do in the development of the disease at the end of the bowel. His medical attendants treated his case severally as *neuralgia*, *internal piles*, and *constipation of the bowels*, by the use of quinine, iron, drastic purgatives, and ointments. This treatment not being at all suitable to the case, was, as a matter of course, anything but beneficial. Mr. F., from having been, previous to this attack, stout, hearty, and hale, had lost much flesh, looked pale and haggard, and was quite prostrated by his long-continued suffering.

About two hours after the rectum had been completely cleared out by an emollient and relaxing enema, and the administration of a belladonna suppository, I made, without the use of an anæsthetic, a thorough exploration of the anus and inferior extremity of the rectum, employing both the finger and the speculum; and the result of which was the discovery of a long and narrow superficial ulcer, with but slightly raised edges, situated on the mucous membrane, at the anterior part of the anus, on the left side, its inferior extremity commencing about a quarter of an inch above the verge of the anus. The diagnosis was now clear.

This patient used a nourishing, but unirritating diet; relieved his bowels daily by relaxing and emollient enemata, and immediately after each movement of the bowels two or three tablespoonfuls of the balsamic mixture mentioned in Case VI. (page 161) were injected into the rectum and retained. By these measures, rigidly observed, and by the daily application to the fissure of the nitrate of silver in solution, and the occasional use of the bougie, the cure was complete in eight weeks.

What was somewhat remarkable, this gentleman, in the

summer of 1857, was treated for and cured of a complete fistula in ano, by me in the city of New York, after he had been cured of his anal fissure more than four years. What gave rise to the anal fistula could not be satisfactorily explained. The long time that had elapsed after the cure of the fissure and the appearance of the fistula, would seem entirely to preclude the idea that the former was the cause of the latter. I saw Mr. F. at the St. Nicholas Hotel in this city last November, 1867, when he informed me that he continued to remain free from both the anal diseases, and that his health otherwise was never as good.

CASE XII.—*Anal fissure attended by great flatulency, and accompanied alternately by constipation and diarrhœa. The true nature of the case having been overlooked, it was treated severally as dyspepsia, anal neuralgia, and internal piles.*

Mrs. W. F———, of Cincinnati, Ohio, æt. twenty-four, bilious and nervous temperament, married five years, but never had children, visited and consulted me at Louisville, Ky., on the 16th of August, 1853. Mrs. F. informed me that she suffered from indigestion, with constipation of the bowels, alternated with diarrhœa, and about fifteen or twenty minutes after each evacuation she experienced the most severe pain at the end of the bowel, attended by a firm contraction of the anal orifice. This agonizing suffering sometimes continues for seven or eight hours, and compels her to be in bed until it subsides. In this case the pain and the anal spasm, as well as the time of their accession, were in no manner influenced by the character of the stools, whether hard, soft, or fluid. This patient was much emaciated, highly nervous, irritable and peevish, and continually annoyed and pained by flatus, especially low down in the rectum. She had been treated for a long time severally for dyspepsia, anal neuralgia, and hæmorrhoids, with, however, no permanent benefit.

Upon an examination of the anus, a single condyloma, about the size of a small pea, was observed at the posterior verge of the anus, on the left side, and concealed by this excrescence was the inferior extremity of a fissure, which, when the borders of the anal orifice were drawn aside, was plainly seen, and found to be a superficial ulcer, extending up the canal half an inch. This lesion had a smooth, bright-red surface, and slightly raised edges. On introducing the finger, which caused severe suffering, a peculiar rough sensation was imparted to the touch.

For the flatulence, and to calm the irritability of the stomach and bowels, one of the following pills was taken every three or four hours:—

Recipe, Extracti Hyoscyami, scrupulum,
Pulveris Ipecacuanhæ, grana decem.
Fiat massa, in pilulas viginti dividendi.

Strict diet was enjoined, and the bowels were relieved almost entirely by emollient enemata. The application to the fissure daily of the nitrate of silver in solution, and the occasional introduction of the bougie to dilate the anal orifice and canal, effected a radical cure of this case in two months. The excrescence diminished in size as the fissure cicatrized, and gradually disappeared.

Case XIII.—*Anal fissure complicated with hæmorrhoids. In this case the fissure, having been entirely overlooked by the previous medical attendants, was diagnosed and treated by them as irritable piles.*

Mr. W. H———, a most estimable gentleman, and citizen of Chambersburg, Pa., æt. sixty-two, of a nervous temperament, came under my care on the 14th of December, 1854. Previous to visiting me at New York, Mr. H. corresponded with me in relation to his condition. The following is an extract from his first letter:—

"CHAMBERSBURG, Pa., November 23d, 1854.

W. BODENHAMER, M.D.:

DEAR SIR:—I have been afflicted for the last three months with what my physician calls the piles; indeed I have been troubled with them, more or less, for the past ten years, but at no period for more than a few days at a time. For the last three months, however, I have been rendered perfectly miserable. My bowels are regular, and my passages quite natural; immediately upon rising in the morning I have a passage, regular every day, but immediately after commences a burning pain, amounting to a torture, continuing for about eight hours, when it subsides like *a fire going out.* I then have partial rest till next morning, when the pain again commences in the same manner after stooling, so that I am quite prostrated, and am now writing this in bed, unable to be up. The pain I cannot describe; it is peculiar to itself, and keeps me in bed more than half the time. Please answer this communication at once, and say what you can do for me, and what it will be necessary for me to do myself—if I must come to New York, how long it would require me to remain there—if so, where had I best stay in the city, and any other information it may be necessary for me to know. I am fearful that I could not at present bear the journey."

I immediately replied to the above, and informed this gentleman that he no doubt had piles, but in addition to that disease he also had an anal fissure, the nature of which I described to him, and also gave him plain instructions how he or his medical attendant could without fail detect it, etc.

In a subsequent letter, dated November 28th, 1854, he says:—"You have no doubt taken the correct view of my case. I immediately put your valuable suggestions into practice, and although attended with considerable pain, the result afforded great satisfaction, as demonstrating beyond all

doubt the true character of my disease. Upon introducing the finger about half an inch, a hard point could be distinctly felt, which was exceedingly sensitive to the touch. The severe pain I suffered after each stool was supposed by us to have been caused by the lower sphincter (as I believe it is called) grasping the partially protruded piles, and pressing upon them for hours afterwards. Some, however, said it was neuralgia connected with the irritable piles. I have fully made up my mind to place myself under your care, and if I am able to travel, I will leave here about this day week."

On the arrival of this gentleman I made a careful examination of the affected parts, and discovered a fissure, with slightly raised and hard edges, situated between two hæmorrhoidal tumors, and commencing immediately within the anal orifice, and extending up the canal nearly one inch, with a small condyloma externally forming its base. I also discovered four distinct and regularly organized hæmorrhoidal tumors, neither of which, however, was very large. The diagnosis in this case was now quite clear, and the indications equally so.

This patient's bowels were regulated by diet and emollient enemata; the fissure was daily touched with the strong solution of the nitrate of silver, and when nearly cicatrized I began to remove the hæmorrhoidal tumors by ligature, one by one, until they were all removed. I then removed the condyloma with the knife. This gentleman was dismissed cured on the 19th of January, 1855, having been thirty-six days under treatment.

CASE XIV. *Anal fissure complicated with hæmorrhoids and with spermatorrhœa.*

Mr. J. B. D———, a notary public of New Orleans, La., æt. twenty-eight, of a nervous temperament, applied to me for medical and surgical advice on the 11th of April, 1855.

He complained of indigestion, constipation, and of a severe burning pain immediately after evacuating his bowels, attended by a spasmodic contraction of the anal orifice, which, together with the pain, would continue for several hours with intense vehemence. He also complained of having frequent seminal discharges, and a general weakness of the genital organs. He attributed this entirely to the pain and anal spasm, as he never had anything of the kind before, and never had abused the venereal pleasures. He informed me that he had been suffering more or less from these several complaints for eight months, and that he had been treated severally for anal neuralgia, hæmorrhoids, and an affection of the prostate gland—the whole treatment, however, affording but partial relief.

Examination revealed a highly sensitive but superficial fissure, half an inch long, situated on the anterior part of the anus, commencing immediately within the anal orifice. Two internal hæmorrhoidal tumors were also discovered. There was no disease of the prostate gland present, further than sympathetic irritation. The spermatorrhœa was doubtless the result of the fissure.

In this case the bowels were made easy by proper enemata; daily applications were made to the fissure of the solution of the nitrate of silver; the bougie was frequently used for the contraction; the hæmorrhoidal tumors were removed by the ligature, and the cure was speedily effected.

CASE XV.—*Anal fissure the result of the application of nitric acid to the mucous membrane of the anal canal.*

Mr. C. A. B———, of No. 16 West 23d Street, New York, æt. forty-three, of a highly irritable constitution, consulted me on the 21st of November, 1855. Mr. B. was suffering severely from constipation of the bowels and from hæmorrhoids, complicated with a prolapsus recti.

On one occasion whilst I was treating this patient, after

having freely applied the nitric acid to the protruded mucous membrane, he, in forty-eight hours after, when sloughing had taken place, suffered the most agonizing pain in the anus after each evacuation from his bowels, accompanied with violent spasmodic contraction of the external sphincter ani. His suffering was so great that I was called to see him in the night. Next day, on making a minute examination, a small fresh ulcer, the size of a split pea, evidently caused by the acid, was observed in the fossa between the two sphincters, in the posterior part of the canal.

The daily application of a strong solution of the nitrate of silver to the ulcer, together with the application at the same time of olive oil, soon cicatrized the lesion, and entirely relieved him of his suffering in six days. He had never experienced anything of the kind before; neither has he since. I might have said that his bowels, which were obstinately constipated, were entirely relieved by enemata composed of the infusion of linseed and olive oil.

Case XVI.—*Anal fissure from a rupture of the mucous membrane of the anal canal, the result of a fall upon the nates.*

On the 28th of May, 1857, Mrs. S. T———, of Harlem, New York, æt. forty, a large and fleshy woman, of a sanguineous temperament, consulted me for a disease of the anal region, from which she had suffered for about three months. She said that two physicians had treated her case; the first for internal and irritable piles, the second for anal neuralgia. Neither of them had afforded her any permanent relief.

In questioning her as to the origin of her anal sufferings, she informed me that she believed they were connected with an accident which had befallen her about three months ago. Whilst in the act of descending a very steep and narrow flight of stairs, when at the top, one of her feet slipped and she fell violently upon the coccyx, and slid in this posi-

tion to the bottom of the stairs. Three or four hours afterwards she thought she had sustained no injury whatever; but on the next day, when evacuating her bowels, she discovered some clots of blood mixed with the fæces, and about a tablespoonful of fresh blood was passed at the same time, and immediately followed by a smarting and burning pain. From that time to this she says she suffers after each evacuation of the bowels the most agonizing pain, especially when the stools are hard; sometimes lasting from five to eight hours, and often attended with a firm and painful contraction of the anus, so that nothing whatever could be introduced during the spasm.

Whilst she was under the influence of chloroform I made a careful examination with the speculum, and observed a narrow slit in the mucous lining, about an inch and a quarter long, commencing just within the margin of the anus, at its posterior commissure, and extending up the canal longitudinally.

Frequent applications of the nitrate of silver in solution to the rent, a large rectal bougie introduced into the rectum every other day, and the bowels regulated by enemata of the infusion of linseed, entirely relieved her in two weeks.

CASE XVII.—*Several anal fissures complicated with numerous condylomata, and with permanent contraction of the anus.*

On the 6th of October, 1858, I was consulted by Mrs. G. W. L———, of Manhattanville, New York, a married lady, of a nervous temperament, æt. thirty-five. She stated that she had external piles and constipated bowels; and that in a short time after stooling she invariably suffered the most severe burning pain at the end of the bowel, continuing often for three or four hours, attended with more or less contraction of the anal orifice. She said that this pain and contraction, together with a constant exudation of a thin yellow matter from the highly sensitive tumors, together

frequently with an intolerable itching, rendered her truly miserable. The contraction of the anal orifice was so great that she could not have a hard evacuation; nothing but fluid fæces could pass.

Upon making an examination of the anus, I discovered a large number of small anal excrescences around the verge of the anus, and between some of these and the radiated folds were seen several superficial fissures or crevices, from one-quarter to one-third of an inch long, extending from below the anal orifice up into the canal. Many of the excrescences were ulcerated at their base, and produced a permanent narrowing of the anal orifice.

This lady kept her bowels in a soluble state by proper regimen and by the use of enemata. The nitrate of silver, both in its solid and fluid form, was daily applied to the condylomata and to the fissures. Before making the applications the parts each time were well washed with yellow soap, and afterwards well dried. Pledgets of lint saturated with the following lotion were also kept constantly applied:—

Recipe, Pulveris Sulphatis Zinci,
——— Aluminis, ana, drachmas duas,
Aquæ ferventis, uncias octo.
Misce et fiat lotio.

The bougie, together with a relaxing ointment, was also frequently used to break up the hard contraction. The result was that in a few months the anal condylomata, the fissures, and the contraction were all gone, and the parts had become soft and pliant, and performed their functions naturally.

Case XVIII. *Anal fissure complicated with an intolerable pruritus of the anus.*

Mr. E. B———, of New York, a lithographer by occupation, æt. thirty-seven, of a bilious and nervous tempera-

ment, consulted me on the 11th of June, 1859. He stated that for a number of years he had been troubled with indigestion, flatulence, and constipation of the bowels, together with an intolerable itching of the anus, which came on at night after becoming warm in bed, and continued for an hour or two, and which nothing would seem to appease. He was in the habit of using *Brandreth's Pills* to relieve the constipation, and various ointments and lotions for the itching, without any permanent benefit. For the last two months, however, in addition to his other ailments he suffers a most severe burning pain in the anus after each operation from the bowels, lasting three or four hours; attended at first by the passage of about a teaspoonful of blood from the anus. Whilst the pain continues he is unable to attend to his occupation, being confined to his room and the recumbent position. In order, however, to be able to attend his business, he has lately changed the time of defecation from the morning to just before retiring to bed at night; but then he loses several hours of rest in the early part of the night. After the burning pain subsides the itching commences, so that between the two he almost suffers martyrdom.

By making the proper exploration of the parts, I detected three or four quite small and superficial fissures, both without and within the anal orifice. I also found the mucous membrane, as well as the muco-cutaneous tissue about the anal orifice, in a state of chronic inflammation, and both of them much thickened and indurated. The mucous membrane especially, for more than an inch above the verge of the anus, was thickened, dry and friable. In this case I first proscribed Brandreth's Pills, and instead, the patient was enjoined to keep his bowels soluble by a proper regimen and the daily use of emollient enemata. I daily painted the whole diseased surface, both within and without the anus, with the solution of the nitrate of silver. The following ointment was also applied to the same parts twice daily:—

Recipe, Hydrargyri Bichloridi, grana duo,
Terebinthinæ Venetiæ, drachmam,
Axungie, unciam.
Fiat unguentum.

Before each application the patient bathed the external parts well with the yellow soap and water.

By persistently pursuing this treatment for six weeks, the patient was entirely relieved of the fissure, the pruritus, and the constipation.

CASE XIX. *Anal fissure in an infant suffering from aphthæ.*

On the 20th of August, 1859, I was called to see Anna J. P———, of New York, æt. thirteen months, a remarkably fine, healthy looking child. The mother informed me that the child for some time had had the thrush badly, which was entirely confined to its mouth until lately, when it, or something like it, appeared on its fundament, which she said was now quite red, raw, and sore; and that whenever the child evacuated its bowels, it seemed, from its sharp cries and the agitation of its body, to suffer the greatest agony. A few drops of blood follow each movement of the bowels. On making the examination, I found the anus firmly contracted, and otherwise in the condition the mother had described it. I also discovered two very superficial fissures or crevices on the left side of the anus, concealed between the delicate folds, commencing about three lines below the verge and extending up into the anus above the verge about two lines.

The child was ordered a teaspoonful each of aquæ calcis and fresh milk mixed, three or four times daily, and the following collutory was applied to the mouth with a mop or brush several times daily:—

Recipe, Boratis Sodæ, drachmam,
Mellis despumati, unciam,
Aquæ Rosarum, uncias quatuor.
Misce et fiat gargarysma.

The fissures, and the whole inflamed and raw surface about the anus, were touched every other day with the solution of the nitrate of silver. The parts were frequently washed with soap and water, or bathed with the decoction of marshmallows. Fresh lard on lint was constantly kept applied.

By this treatment the child was entirely cured in ten days.

CASE XX. *Anal fissure complicated with hæmorrhoids and an affection of the prostate gland.*

At the request of Mr. R. S. H———, of Alleghany City, Pa., I visited him at his residence on the 6th of May, 1860. He informed me that for several months he had been suffering the most agonizing pain after each movement of his bowels, attended by violent contractions of the anus. He described the pain as being of an intense burning and lancinating character; that it always commenced from ten to thirty minutes after stooling, and continued from eight to ten, and often to twelve hours without intermission. The pain sometimes extended to the neck of the bladder, and caused more or less retention of urine. What was more remarkable in Mr. H.'s case, he could not lie down during the pain without greatly aggravating it, and, even in the absence of the pain, the horizontal position would at once reproduce it; consequently he could only sleep whilst sitting on a hard-bottomed chair. During the pain he was alternately sitting on a chair, or walking about the room in the greatest agony. He told me he had not slept in a bed for a number of weeks, as the horizontal posture was most certain to bring on a paroxysm of pain; indeed, coughing, sneezing, urinating, or any sudden or violent movement would cause a recurrence of the same. His bowels were obstinately constipated, but his appetite, his digestion, and his health otherwise were good. He was much emaciated as well as prostrated, and had that peculiar sharp expression

indicative of long-continued suffering. Mr. H. is fifty years of age.

In a short time after the rectum had been completely emptied by a relaxing enema, I proceeded to make the examination. The first thing that attracted my attention externally was the singular appearance of the anus itself, which was so retracted or drawn up that it was almost out of sight; the next was a condyloma, about the size of a filbert, on the left side of the anus posteriorly. I also detected a small internal pile tumor on the same side anteriorly. Upon examining the interior of the canal with the finger as well as with the speculum, I detected an ulcer, two-thirds of an inch long and a quarter of an inch wide, just above the condyloma. Its edges were considerably raised and indurated, and the bottom soft and of a grayish appearance, and exquisitely painful to the touch. There was also discovered a considerable chronic engorgement or enlargement of the third or middle lobe of the prostate gland, which was very tender upon pressure.

Under these circumstances, I advised Mr. H. to visit me at New York at once, if possible, and after recommending some palliative measures to be observed by him in the mean time, I left.

On the 12th of May, 1860, just six days after my visit to him, Mr. H. came to New York, when I at once commenced the radical treatment of his case. His bowels were regulated by diet and by emollient enemata. Every morning, immediately after the rectum was emptied by the enema, two tablespoonfuls of the balsamic mixture mentioned in Case VI. (page 161) were injected into the bowel, and retained. The fissure was at first touched every other day with the solid nitrate of silver; occasionally, however, the acid nitrate of mercury was applied instead. After pursuing this treatment for about twelve days, Mr. H. could sleep in the horizontal posture, which was the first indication he experienced of a

most decided improvement. After this the nitrate of silver was daily applied, in the form of solution, to the fissure, and the frequent introduction of the bougie was adopted to overcome the contraction, which still remained very troublesome and annoying, as it interfered greatly with defecation. In the mean time the condyloma and the hæmorrhoidal tumor were removed by the ligature. Mr. H. continued to improve gradually until the 7th of August, when I dismissed him cured. For three or four months after he left, he was occasionally troubled with the contraction and slight twinges of pain, which, however, he always relieved himself of by the use of the bougie.

This gentleman was told by several surgeons, both before and after I commenced treating his case, that he never would be cured of his fissure unless the anal sphincters were divided according to the operation of M. Boyer. I had the pleasure of seeing Mr. H. in this city last December, 1867, when he informed me that he still remained entirely free from his anal fissure and contraction, now more than seven years since he was cured.

CASE XXI.—*Anal fissure complicated with hæmorrhoidal tumors, the fissure situated between two of them.*

Mr. G. A. B———, a glass manufacturer of Pittsburg, Pa., æt. forty, of a sanguine and nervous temperament, consulted me on the 11th of December, 1861, for what he said his physician called irritable and painful piles. He informed me that he suffered the most intense pain after each movement of the bowels, attended by a rigid spasmodic contraction of the anus. In stooling, a large protrusion would take place on the left side of the anus, which he was always compelled, although attended with severe pain, to replace as soon as possible or suffer the consequence—a prolonged agony.

On making the examination I discovered two large

hæmorrhoidal tumors on the left side of the anus, and between them a fissure nearly an inch long.

The bowels were relieved by aperients and emollient enemata, the fissure was daily touched with the nitrate of silver in solution, and the tumors were removed by the ligature. A complete cure was effected in four weeks, the patient at no time during the treatment being compelled to remain in his room or his bed for a moment on account of it.

CASE XXII.—*Anal fissure caused by chronic irritation of the mucous membrane and muco-cutaneous coat of the anus. Error in diagnosis and failure to afford relief by previous treatment.*

The Rev. Dr. P———, of Pittsburg, Pa., consulted me January 31st, 1862, for a very painful affection of the anus, from which he had been suffering severely for several months, and which almost completely disqualified him from attending to his clerical duties as pastor of a large congregation, as well as those of professor in a theological college. Although two or three physicians had in the mean time examined and treated his case, they afforded him no permanent relief, inasmuch as they failed to detect the real disease, and consequently failed to establish the true diagnosis of the case. As well as I now recollect, the case was treated as neuralgia of the anus or inferior extremity of the rectum.

The Doctor informed me that he was much troubled with indigestion and constipation of the bowels, and that for the last two or three months, in a few minutes after each fæcal dejection, he experienced the most severe and excruciating pain in the anus and anal region, of a sharp and burning character, accompanied often with a rigid contraction of the anal orifice. These sufferings would continue for several hours, often confining him, during their continuance, to his room and his couch, when they would gradually or suddenly subside, to be again renewed after the next fæcal evacuation.

After having heard him describe his sufferings, I at once

informed him that he had an anal fissure, and that I would demonstrate it ocularly. I requested the Doctor to empty the rectum thoroughly on the following morning by an enema composed of the infusion of linseed and castor oil, and that I would call at his residence afterwards and make a minute physical exploration of the rectum and anus.

The rectum having been cleared out, I carefully introduced my small bivalve speculum into the anus and anal canal, and gradually expanded the blades to their full extent, when I at once detected, in the posterior portion of the anus, a long narrow superficial ulcer, of a bright-red color, commencing just within the anal orifice, and extending up the canal about two-thirds of an inch. The inferior extremity of the fissure terminated in a small condyloma at the verge of the anus, which, together with the longitudinal folds of the canal, completely concealed it, until it was brought into view by the folds being made tense by the expansion of the blades of the speculum. I also observed that there was considerable chronic inflammation and thickening of the mucous membrane and muco-cutaneous coat of the anus, which was doubtless the cause of the fissure. No anæsthetic was employed in making this examination. The diagnosis of this case was now quite clear.

The treatment consisted in the daily exoneration of the bowels by enemata of the infusion of linseed; the daily application to the fissure and inflamed surface of the nitrate of silver in solution. The patient took a mild tonic, observed an unirritating diet, and daily took moderate exercise in the open air.

By this treatment the cure was completed in four weeks.

CASE XXIII.—*Anal fissure in a nursing mother who was suffering severely from aphthæ.*

Mrs. F——, of W——, N. Y., mother of two children

and nursing the last, applied to me on the 2d of April, 1862. She complained of indigestion, constipation of the bowels, acidity of the stomach, flatulence, and canker sores of the gums and inside of the lips and cheeks, with a constant and copious flow of saliva. She says she has piles, and loses a great deal of blood at each evacuation of the bowels, so much so that she is quite anæmic; she also says that each time the bowels are moved she suffers the most severe burning pain at the anus, extending up the sacrum to the loins, frequently accompanied by anal spasm, and lasting from one to five hours. Paroxysms of these pains are frequently brought on by the passage of flatus from the anus, which is her constant dread and torment; coughing, sneezing, urinating, and singing loud, also induce or aggravate the pain.

I at once intimated to her that she had anal fissures or ulcers, similar in character to those of her mouth, which upon examination proved to be true.

I applied the strong solution of the nitrate of silver freely, once daily, to the sores of the mouth, as well as to the fissures and sores of the anus. She took regularly the bismuth powder mentioned in another part of this work (page 117); lived on plain and simple diet, and regulated her bowels by mild aperients and emollient enemata; and in the course of a month she was entirely cured.

The same patient consulted me again in the fall of 1865 for the same affection—in a worse form, however. She was again nursing as before. Leaving in a short time, she was only partially relieved by the same treatment. I have not heard from her since, and do not know the result of her case.

CASE XXIV.—*Anal fissure complicated with hæmorrhoids, and with an anal fistula.*

At the request of His Excellency ——, Governor of ——, I visited him professionally at his residence at —— on the 17th of May, 1862. I found the Governor much

prostrated, quite emaciated, and highly nervous and excitable, suffering from a complication of diseases, any one of which would have been quite sufficient, of itself, to have prostrated any person, not of an extraordinarily strong constitution. I also observed that in his official capacity as Governor, he was overtasking his brain by attempting to do the mental work of half a dozen men, it being just then in the midst of the terrible civil war which was desolating our country.

The Governor informed me that he had suffered more or less from piles for a number of years, but that from the labors and fatigues of the exciting political canvass in which he was engaged during the summer and fall of 1860, they had become greatly aggravated. Ever since then they appear to have gradually changed their character, so that now, after each movement of the bowels, the tumors are returned with much greater difficulty and pain, and in a short time after they are returned, he suffers the most intolerable acute and burning pain in the anus, continuing for five or six hours without intermission, and frequently attended by paroxysms of violent anal contraction. There is constantly more or less discharge from the anus of mucus and matter, sometimes mixed with blood.

After the rectum had been thoroughly emptied by an enema of the infusion of linseed and castor oil, and before the protruded parts were returned, I made a careful examination, and found four large hæmorrhoidal tumors protruding, and between two of these, at the posterior part of the anus, I detected a fissure the eighth of an inch wide, commencing at the verge of the anus, and extending up the canal nearly an inch. The surface of the ulcer was florid and its edges were raised and hard. I also discovered the external orifice of a small anal fistula, situated on the left side of the anus posteriorly. Upon probing the fistula, I found it communicated with the bowel.

In this instance the fissure was doubtless the result of a laceration of the mucous membrane produced at some time during the forcible expulsion of indurated fæces, and the fistula, the result of the continued and combined irritation kept up in the parts by both the hæmorrhoids and the fissure.

The anal fissure was cured in about three or four weeks by my son, Dr. W. H. Bodenhamer, who remained with the Governor in his house. The ulcer was daily touched with the nitrate of silver in some form or other, and the bowels were almost entirely relieved by emollient enemata.

Subsequently to the cicatrization of the fissure, the Governor visited me at New York, where I cured the anal fistula by the use of the ligature, and removed the hæmorrhoidal tumors by the use of the same means. I have just had the pleasure of a call (this 17th day of June, 1868), from my friend Ex-Governor ——, who I am happy to say is entirely well. He says that he remains entirely free from all his anal affections; that the cure is complete and radical, being now six years since I dismissed him well.

CASE XXV.—*Fissures and aphthous abrasions and ulcerations of the anus, in connection with nurses' sore mouth.*

On the 16th of July, 1863, I was called to see Mrs. G. R——, of New York, æt. thirty-eight, mother of several children and nursing the last one. I found her suffering from indigestion, frequent sour eructations from the stomach, abrasions of the lips, fissures of the tongue as well as of the anus, and general relaxation.

On making an anal examination, I discovered a number of superficial fissures and ulcers, both immediately without and within the anal orifice, which were of a bright-red color and highly sensitive to the touch; and from which she suffered the most intense burning pain whenever she evacuated her bowels. The pain would sometimes continue three or four hours, and often attended by firm contraction of the

anal sphincters. She informed me that she suffered severely from hæmorrhoids, but only during pregnancy; and that she always had a sore mouth whilst nursing, but never before suffered from pain at the anus, neither at the time of, nor after evacuating her bowels.

The treatment of this case was in every respect similar to that of Case XXIII.; and a complete cure was effected in four weeks.

CASE XXVI.—*Anal fissure following the ligation and sloughing of a hæmorrhoidal tumor.*

Mr. H. McC——, of Harrisburg, Pa, æt. thirty-five, of a bilious temperament, consulted me in May, 1864, for a hæmorrhoidal affection. On the sixth or seventh day after ligating the last tumor, a quite large one, it became detached during the severe straining efforts at evacuating hard fæces, causing at the time a little hæmorrhage and considerable burning pain. On the next and subsequent evacuations the burning pain was extreme, and attended with spasmodic contraction of the anus, thereby greatly increasing the pain and making it almost unbearable. Upon examination, I discovered on the left side of the anus, about four lines above its margin, a small oval and angry-looking ulcer at the spot where a portion of slough had become detached.

A few applications of the nitrate of silver to the ulcer, and dilatation of the sphincters of the anus, relieved him entirely in three days.

CASE XXVII.—*Anal fissure in a patient with albuminous urine, whose general health was much impaired.*

E. L——, of New York, an Irish servant girl, æt. twenty-one, very pale, thin, and much impaired in health, consulted me on the 20th of May, 1865. She is very nervous, has a morbid appetite, obstinate constipation of the bowels, constant distressing flatulence, and irregular and scanty cata-

menia. About half an hour after each movement of the bowels she says she suffers the most dreadful pains at the fundament, which continue without intermission for several hours, and then subside, to be renewed on the next fæcal dejection. She also loses a large amount of blood at each alvine evacuation, but says she has never discovered any tumors.

An examination disclosed two anal fissures—one in front, and one on the right side of the anal orifice—both extending some considerable distance up the canal. From her appearance and general ill health I was induced to examine the urine, and found it albuminous. The condition of this poor girl was anything but flattering, yet in the course of four months her general health was restored; and long before she had been entirely relieved of her fissures, without either cutting or forcible dilatation, for no prudent or educated surgeon would, in her condition, have performed either operation.

The bowels were regulated by diet, mild aperients, and enemata, and she took as a tonic twenty drops of the following solution, three times daily, in an infusion of quassia:—

Recipe, Citratis Ferri, drachmas duas,
Sulphatis Quiniæ, semi drachmam,
Acidi Citrici, grana viginti,
Aquæ destillatæ, unciam.
Fiat solutio.

Her diet was nourishing, consisting of roast beef, beefsteak, mutton chops, &c. The fissures were treated by the daily application of the solution of nitrate of silver, and were entirely cicatrized at the end of four weeks. The hæmorrhage proceeded from the anterior fissure, and gradually ceased as the healing progressed. This patient improved rapidly, she gained flesh and strength, and her face lost its pallor, by arresting the hæmorrhage, by the use of the nourishing diet and the citrate of iron.

When from any cause the operation of incising the mucous membrane, of dividing the anal sphincters, or of forcible dilatation, is contra-indicated, the method of topical applications, as recommended in this work, especially becomes invaluable.

CASE XXVIII.—*Anal fissure the result of obstinate constipation of the bowels, and the passage of scybalous fæces.*

Mrs. B———, of Flushing, N. Y., æt. thirty-three, mother of one child eight years old, of a bilious and nervous temperament, consulted me on the 10th of September, 1866, by the advice of my excellent and good friend Dr. J. F. Gray, to whom I am greatly indebted for many favors of this kind. Mrs. B. informed me that she has suffered from obstinate costiveness from her earliest recollection, otherwise her health was good, until, within the last year or six months, she commenced to suffer the most agonizing pain in the anal region a short time after each evacuation of the bowels, attended by a firm and violent contraction of the anus. The pain and the contraction on some days would continue as long as six or ten hours, confining her during the time to her bed or couch. It was supposed she was suffering from hæmorrhoids.

On making an examination, I observed a condyloma about the size of a large pea at the posterior verge of the anus on the left side, and on drawing down the borders of the anal orifice, I plainly saw the inferior extremity of a superficial fissure concealed by the condyloma. Upon using the finger and speculum, which was attended with severe pain, no anæsthetic having been employed, I found the fissure extending up the canal about three-fourths of an inch, having a bright-red and raw surface, and slightly raised edges.

The treatment of this case consisted in the regulation of the bowels by a mild aperient, and by the daily use of an

emollient enema; by the frequent application to the fissure of the strong solution of the nitrate of silver, and by the occasional use of the bougie. By this course a rapid improvement soon took place; but on several occasions, when it was supposed the fissure was cicatrized and entirely well, an evacuation of hard fæcal matter would open the fissure and reproduce the pains; so that the treatment was unusually protracted, and causing great discouragement. The regulation of the bowels, and a few applications to the fissure, however, always promptly relieved the pain. It is now nearly a year since any pain has been experienced, although on several occasions hard evacuations have taken place, so that Mrs. B. considers she is permanently cured.

CASE XXIX.—*Irritable ulcer situated in the fossa between the external and internal sphincter of the anus.*

Mr. Van N——, of New York, a student of Bellevue Medical College, æt. thirty-one, of an atrabilious temperament, consulted me on the 26th of November, 1866, for what he believed either neuralgia of the inferior extremity of the rectum, or anal fissure. Mr. Van N.'s general health is good, but he suffers from indigestion and constipation of the bowels. A short time after each evacuation of the bowels, he experiences the most intense burning pain some little distance above the anal orifice, attended occasionally by a slight spasm of the anus, and by a small purulent discharge. This pain on some days, especially when he has very hard stools, will continue for five or six hours after having such an alvine dejection.

On making an inspection of the parts, I discovered a portion of the verge of the anus, on the left side posteriorly, to be red, swollen, and everted, and on introducing the right index finger into the anus a little above the second joint, I could distinctly feel a large excavated and highly sensitive ulcer, with hardened edges and soft bottom, situated on the

posterior portion of the canal, in the fossa between the two anal sphincters. By the use of my small speculum, I discovered the ulcer to be about the size of an American silver ten-cent piece, of a grayish appearance, with elevated edges and soft and spongy bottom, answering the exact description of certain ulcers in this locality given by Mr. Colles, and mentioned in another part of this work.

The treatment in this case consisted in moving the bowels by emollient enemata, the daily application to the ulcer, made visible by the speculum, of a saturated solution of the nitrate of silver. By this treatment a cure was effected in three weeks. The peculiar laxity and lip-like protrusion of the external margin of the anus in this case, gradually disappeared as the ulcer above it became healed.

——o——

SECTION II.—BIBLIOGRAPHY.

A.

ÆTIUS. Medici Græci contractæ ex veteribus Medicinæ Tetrabiblos, hoc est Quaternio. Tetr. IV. Serm. 2. cap. 3. Basil, 1542. Folio.

ALBUCASIS. Chirurgi Methodus Medendi. Lib. II. cap. 81. p. 633. Channing's Edition.

ALISON (W. P.). Cyclopædia of Anatomy and Physiology. By R. B. Todd, M.D. Vol. 1. Art. Contractility, p. 719. London, 1836.

ASHTON (T. J.). Diseases, Injuries and Malformations of the Rectum and Anus. Third Edition, p. 44. London, 1860.

B.

BAILLIE (Matthew). Medical Transactions of the College of Physicians of London. Vol. V. p. 136. London, 1815.

Basedow. Ueber die Strictura Ani Spastica. In Graffe and Walther's Journal der Chirurgie. Band VII. s. 125. Berlin, 1826.

Beclard (P. A.). Archives Générales de Médecine. Tome VII. pp. 139, 310. Paris, 1825.

Begin (L. J.). Observations relatives aux Fissures de l'Anus. In Recueil de Mémoires de Médecins Militaires. Paris, 1826.

Bellingeri (C. F. J.). Experimenta Physiologica in Medullam Spinalem. Lecta die 13 Junii, 1824. From Memorie della Reale Accademia della Scienze di Torino XXX. Turin, 1826. Analyzed in the Journal des Progrès des Sciences. Tome I. p. 125. Paris, 1827.

Black (James). A Manual on the Bowels, p. 213. London, 1840.

Blackett (Powell). London Medical Repository. Vol. VII. p. 377. May, 1817.

Blandin (P. F.). Dictionnaire de Médecine et de Chirurgie Pratiques. Art. Fissure. Tome VIII. p. 155. Paris, 1832.

Bouchut (E.). A Practical Treatise on the Diseases of Children. Bird's English version, p. 528. London, 1855.

Boyer (M. le Baron Philippe). Traité des Maladies Chirurgicales. Tome VI. p. 605. Cinquième edition. Paris, 1849. Also, Journal Complémentaire du Dictionnaire des Sciences Médicales. Tome II. p. 24. Paris, 1818.

Bretonneau (P.). Gazette Médicale. Tome VIII. No. 36, p. 59. Paris, 1840.

Brodie (Sir Benjamin C.). Clinical Lectures on Surgery. Lect. XXXVI. p. 322. Philadelphia, 1846.

Brown (J. Baker). London Lancet, July 14th, 1860, p. 31.

Bushe (George). A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus, p. 99. New York, 1837.

C.

Calvert (George). A Practical Treatise on Hæmorrhoids and other Important Diseases of the Rectum and Anus, p. 211. London, 1824.

Chelius (Maximilian Joseph). Handbuch der Chirurgie. Band II. s. 34. Heidelberg und Leipzig, 1827.

Coates (Reynell). American Cyclopædia of Practical Medicine and Surgery. Vol. II. Art. Anus, p. 118. Philadelphia, 1841.

Colles (Abraham). Lectures on the Theory and Practice of Surgery. Edited by Mr. S. M. McCoy. p. 279. Philadelphia, 1845. Also, Dublin Hospital Reports, Vol. V. p. 155. Dublin, 1830.

Copeland (Thomas). Observations on the Principal Diseases of the Rectum and Anus. Second edition, pp. 46, 136. London, 1814.

Curling (T. B.). Observations on the Diseases of the Rectum. Third edition, p. 5. London, 1863.

D.

Delaporte. Observations sur l'heureux emploi de la belladone dans un cas de fissure et de constriction spasmodique de l'anus. In Journal Général de Médecine. Tome CX. p. 329. Paris, 1830.

Delauney (J. Aug.). Essai sur la Fissure ou Gerçure à l'Anus. Thèse de Paris, Année 1824. No. 215.

Delpech (J.). Précis Elémentaire des Maladies réputées Chirurgicales. Tome I. p. 598. Paris, 1816.

De Montegre (A. J.). Des Hémorroïdes, ou traité analytique de toutes les Affections Hémorroïdales. Nouvelle edition, publiée par sa Veuve, p. 51. Paris, 1819.

Descude. Mott's Velpeau; Vol. III. p. 1112. New York, 1847.

Dionis (Pierre). Cours d'Opérations de Chirurgie démonstrées au Jardin du Rio. Huitième edition. Par De La Faye. Tome I. p. 397. Paris, 1782.

Dupuytren (M. le Baron). Leçons Orales de Clinique Chirurgicale. Tome III. Art. 10, De la Fissure à l'Anus, p. 150. Bruxelles, 1836.

Duroutge. Dissertation sur la Constriction Spasmodique du Sphincter de l'Anus, accompagnée de Fissure. Thèse de Strasbourg. Année 1829.

F.

Fergusson (William). A System of Practical Surgery, p. 550. Philadelphia, 1853.

G.

Gaitskell (William). London Medical Repository, Vol. IV. p. 51. July, 1815.

Gendrin (A. N.). Traitement des Fissures de l'Anus. In Transactions Médicales. Tome VI. p. 24. Paris, 1831.

Gossement. Malgaigne; Operative Surgery. English version, by F. Brittan, M.D. p. 429. Philadelphia, 1851.

Gross (Samuel D.). A System of Surgery. Vol. II. p. 736. Philadelphia, 1859.

Guy (De Chauliac). Magna Chirurgia. Tract IV. doct. 2, chap. 7. Venetii, 1490. Folio.

H.

Harrison (Robert). Cyclopædia of Anatomy and Physiology. By R. B. Todd, M.D. Vol. I. Art. Anus, p. 185. London, 1835.

Hayward (George). Report of the Surgical Cases that occurred in the Massachusetts General Hospital, from the 12th of May, 1837, to the 12th of May, 1838. Boston, 1838.

Hervez De Chegoin (N. J.). Traitement des Fissures de l'Anus. In Transactions Médicales. Tome VI. p. 24. Paris, 1831.

Howship (John). Practical Observations on some of the Diseases of the Lower Intestine and Anus. Third edition, pp. 4, 210, 240, 245. London, 1824.

L.

Labat. De la Fissure à l'Anus et de sa cure radicale par le moyen du Sphincterotome. In Annales de la Médicale Physiologie. Tome XXIV. p 207. Paris, 1833.

Laborderie (A.). Revue Médicale de Paris. Juillet, 1830.

Lamoureux. Société de Médecine de la Seine-Infér. Tome IX. p. 78.

Lemonnier (L.). Traité de la Fistule de l'Anus, p. 160. Paris, 1689.

Liston (Robert). Clinical Lecture at London University Hospital. In Medico-Chirurgical Review, April, 1835. No. XLIV. p. 490.

Louvet-Lamarre. Constriction Spasmodique du Sphincter de l'Anus guérie par l'emploi simultané de mèches de charpie et de préparations de belladone. In Nouveau Bibliothèque Médicale. Tome II. p. 389. Paris, 1827.

M.

Malgaigne (J. F.). Operative Surgery. English version, by F. Brittan, M.D. p. 429. Philadelphia, 1851.

Malyn (John). Cyclopædia of Practical Surgery. By W. B. Costello, M.D. Vol. I. Art. Anus, p. 341. London, 1841.

Marjolin (M.). Quoted by Cabanellas. Thèse de Paris. No. 132. Année 1826.

Mayo (Herbert). Observations on Injuries and Diseases of the Rectum, p. 3. London, 1833.

Merat (F. V.). Dictionnaire des Sciences Médicales. Tome XV. Art. Fissure. Paris, 1816.

Miller (James). The Practice of Surgery, p. 380. Edinburgh, 1852.

Morrison (M.). American Journal of the Medical Sciences. No. XLIV. p. 336. Philadelphia, August, 1838.

Mothe. Mémoires sur les Fissures à l'Anus. In Mélanges de Médecine et de Chirurgie. Tome II. p. 31. Paris et Lyon, 1827.

N.

Nacquart. Traitement des Fissures de l'Anus. In Transactions Médicales. Tome VI. p. 24. Paris, 1831.

Nelaton (Auguste). Clinical Lectures on Surgery. From Notes taken by W. F. Atlee, M.D. p. 552. Philadelphia, 1855.

Nevermann. Ueber die Fissure des Afters, oder die Strictura Ani Spastica. In Holcher's Hannoverischen Annalen. Band I. s. 729.

P.

Pagen. Gazette Médicale. Tome VIII. No. 4, p. 59. Paris, 1840.

Paillard (Alex.). Fissure à l'Anus traitée et guérie sans secours de l'incision ni de la cautérisation. In Revue Médicale de Paris. Tome I. p. 869. Année 1829.

Pancoast (Joseph). Operative Surgery, p. 307. Philadelphia, 1844.

Pare (Ambrose). The Works of. English version, by T. Johnson. Chap. LXIII. p. 954. London, 1634. Folio.

Pauli (Æginetæ). Libri Septem. Greek et Latin. Lib. VI. cap. 80. Basilæ, 1532. Folio.

Pirrie (William). The Principles and Practice of Surgery, p. 653. Philadelphia, 1852.

Q.

Quain (Richard). The Diseases of the Rectum. Second edition, p. 154. New York, 1855.

R.

Recamier (J. C. A.). Revue Médicale de Paris. Janvier, 1838.

Richerand (A.). Archives Générales de Médecine. Tome VII. pp. 139, 310. Paris, 1825.

Riverius (Lazarus). The Practice of Physic. Book X. chap. 11, p. 316. London, 1658, Folio.

Roche (L. C.). Nouveaux Eléments de Pathologie Medico-Chirurgicale. Quatrième edition. Tome III. p. 634. Paris, 1844.

Rouse (James). On Ulceration of the Lower Extremity of the Rectum; its Varieties, Diagnosis, and Treatment. In British Medical Journal, May 12, 1860. P. 356.

S.

Salmon (Frederick). A Practical Essay on Stricture of the Rectum. Fourth edition, pp. 70, 180. London, 1833.

Sanson (L. J.). Nouveaux Eléments de Pathologie Medico-Chirurgicale. Quatrième edition. Tome III. p. 634. Paris, 1844.

Scallan (J. J.). Dublin Journal of Medical Science. November, 1845. p. 217.

Smith (Henry). Hæmorrhoids and Prolapsus of the Rectum. Third edition, p. 124. London, 1862.

Smith (Henry H.). A System of Operative Surgery. Vol. II. p. 330. Philadelphia, 1856.

Syme (James). On Diseases of the Rectum. Third edition, p. 125. Edinburgh, 1854.

T.

Thibord. Essai sur la Fissure ou Gerçure à l'Anus. Thèse de Paris. No. 194. Année 1828.

Trousseau (Armand). Gazette Médicale de Paris. Tome VIII. No. 36. Année 1480. Also, London Lancet, Vol. IV. p. 157. 1846.

V.

Van Buren (W. H.). Certain Points in the Treatment of Diseases of the Rectum. Read before the New York Academy of Medicine, December 16th, 1863. In American Medical Times. Vol. VIII. p. 218. New York, 1864.

Velpeau (Alf. L. M.). Dictionnaire de Médecine. Deuxième edition. Tome III. p. 300. Paris, 1833. Also, Mott's Velpeau, Vol. III. p. 1108. New York, 1847.

Vivent. Dissertation sur la Fissure à l'Anus. Thèse de Paris, No. 132. Année 1830.

W.

White (W.). Observations on Strictures of the Rectum. Third edition, p. 10. Bath, 1820.

Wiseman (Richard). Several Chirurgical Treatises. Book III. Chap. 3, p. 222. London, 1676. Folio.

NOTICES OF THE MEDICAL PRESS.

"This work constitutes one of the most complete monographs with which we are acquainted. In it we have collected, and apparently with accuracy, no less than 287 cases from every available source, and also a review of both the medical and surgical treatment in full from the earliest times, with all the improvements down to the present time."

"The materials collected and introduced into the work are well digested, with full and particular references to their sources; and in the relation of the various cases, the remarks of the original writers are given in connection with them. The volume is well illustrated by 16 plates, each containing several drawings. Altogether, the book is a complete and valuable compendium on the subject up to the time of its publication, and a monument of industry and patience."—*British and Foreign Medico-chirurgical Review.*

"This is a most complete and valuable work, treating in an exhaustive style of a class of affections on which no complete systematic or practical treatise has hitherto been published. A copious bibliographical index is given, and on the whole the treatise is most complete, ranging throughout almost the whole literature of the subject, and nearly exhausting all that is to be said on it in the present state of our knowledge." "The subject is one well worthy of the labor Dr. Bodenhamer has bestowed upon it, and worthily has he worked it out."—*Dublin Journal of Medical Science.*

"The style of this author is concise and agreeable, and his subject interesting; his work will well repay perusal, although its immediate study may not be required. Unfortunately it belongs to that class of books which a physician, having no cases of the kind to treat, feels indifferent in possessing, and scarcely willing to admit as necessary. It shows itself forth, however, in bold relief, as one of the most important and useful, when he is called to operate on some unfortunate child thrown suddenly in his charge. Glad of the opportunity of examining its valuable pages, he will then agree with us on its extreme utility, and in considering that no medical library can be called complete without it. It is a large octavo of upwards of 300 pages, filled with beautiful lithographs; and, besides, separate and distinct treatises on the different species of malformation and their treatment, containing, in elucidation of the subject, upwards of 200 cases, gathered from every reliable source, classified and tabulated. By these we find that of 156 on which operations have been performed, 87 have recovered: this is encouraging, for of 42 for which nothing had been done, all but 12 succumbed. Finally, 50 pages are devoted to the different modes of performing the operation for abdominal artificial anus, which are plainly illustrated by lithographs."—*Canada Lancet.* (*Montreal.*)

"To the practitioner who desires to be prepared for every emergency, we commend this volume as an indispensable additiou to his library."—*American Medical Times.*

"This is a most valuable monograph on subjects on which little knowledge is to be derived from our surgical books. The author appears to have fully elaborated

and exhausted the subject, having collected from all sources nearly three hundred cases, and illustrated the most remarkable by sixteen plates, which are well executed, and render the volume an attractive and useful one."—*American Medical Gazette.*

"This is an opportune and valuable addition to the means of acquiring a knowledge of the diseases of the rectum, which the excellent works of Ashton, Quain, Syme, Bushe, and Copeland have so clearly and fully furnished to English and American readers. As a practical monograph it is not inferior to either of these, so far as relates to its particular department of the subject; while it surpasses them all in completeness and extent of illustration, and in the facilities afforded to the student for the purpose of further investigation. The work is no empty compilation, since the author's views are clearly and precisely given upon all practical points, and many useful practical details are pointed out, in a manner which shows them to be the product of much especial thought and observation as well as practical skill and intelligence."—*American Journal of the Medical Sciences.*

"The work before us is one that cannot fail to interest all diligent inquirers in the ranks of the medical profession, at the same time that it will add much to the reputation of one of its laborious members. As a monograph it may be taken almost as a model; while the subject is one upon which the profession were little enlightened, its literature being principally scattered through the published transactions of various medical societies, or appearing in isolated cases reported in various medical journals."

"In conclusion, we would merely say that the volume which Dr. Bodenhamer has given to the profession is most creditable to himself and to the profession in this country; and must be considered by far the most valuable, if not the only text-book on this subject."—*Boston Medical and Surgical Journal.*

"We give this work of Dr. Bodenhamer's a cordial welcome to our table, both on account of the intrinsic value of the work itself, and our esteem and friendship for the author, who has labored hard, but successfully, for many years in this branch of medical science."

"The work is unique, being the only complete, systematic, and practical treatise upon the subject ever published. It contains, in addition to his own vast experience, the productions and contributions—to the literature of this subject—of all the eminent surgeons of Europe and America;—thus collecting and combining, in a compact and condensed form, what has heretofore been scattered over the two hemispheres, in brief and detached articles, memoirs, and essays, as presented in the transactions of medical societies; in brief monographs; in different periodicals, &c."

"Dr. B. has devoted an immense amount of labor and time in the production of this invaluable work, for which he richly merits the thanks and the gratitude of the entire medical profession."—*Eclectic Medical Journal.*

"Congenital vices of conformation constitute many of the most unfortunate disorders to which the human frame is liable. Some of them are incurable, either causing early death, or allowing life to be prolonged in suffering and deformity (*Spina Bifida, Exstrophy of the Bladder, Deformities of the Limbs, Phocomele, &c.*). Others are curable, but demand for their relief the highest resources of the medical art (*Hernia, Cleft Palate, Hare Lip, Club Foot*). The congenital malformations of the rectum and anus include representatives of both these classes. Although of not infrequent occurrence, they are not sufficiently numerous to permit the general possession of experience in their management among practitioners; so that a practical treatise on the subject, embodying the requisite details of diagnosis and treatment, is of great value to the profession. The able work of Dr. Bodenhamer before us has this merit: It is concise, full, and practical; and in addition to this claim, possesses that of being the only complete and practical work on congenital malformations of the rectum and anus which has ever been published in this, or in any other country."—*Berkshire Medical Journal.*

"This able work of Dr. Bodenhamer will be welcomed by the profession, as filling a void which has heretofore existed, and as presenting the opinions and reports of cases that have been made through journals, reports of medical societies, or published as monographs, and were beyond the reach of the mass of the profession."—*Journal of Rational Medicine.*

"We cordially recommend this work to the profession."—*Savannah Journal of Medicine.*

"Is the most complete work of the kind that has ever been published."—*Medical Journal of North Carolina.*